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CRAFTSMAN®



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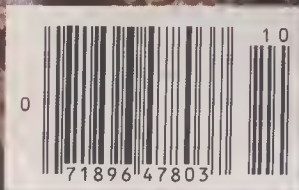
epilogue

CONSTRUCTION:

- Train order board
- Stone depot

LAYOUT PLANNING:

- The ultimate module?
- G.E.'s railroad





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It seems everybody knew we were working on the Fairbanks-Morse H24-66 Train Master. It was one of the industry's worst kept secrets. We appreciate your patience in waiting and not driving us nuts with questions, like, "When, when, when . . . ???". We feel that the wait was worth it, and that the photos prove our point. It's ready now, at your dealer.

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cover

TRIBUTE: G&D Mikado No. 42 drifts downgrade through a canyon on the late John Allen's railroad. Jim Findley's final installment talks about John.

editorial/HAROLD H. CARSTENS

We've all heard the old saw about the guy who built a sailboat in his basement, but when it was finished, discovered that he couldn't get it out. Most modelers do much the same thing—over the years we have seen many great model layouts which had to be destroyed because the builder never thought he would have to move. People get transferred or take new jobs across the country, and they move. The other side of the mountain beckons, and they move. People retire, look for a different kind of housing or, when aged, seek a retirement home, and they move. We are a nation of large and small apartments and homes. One fifth of us pick and go each

The sectional benchmark builds into a rigid form, especially once you start adding track-work and yards. The 3'x6' sections have horizontal joists running across them at about 14" intervals, boxes with interior dividers. This makes it easy to add risers for track or attach large sheets of plywood to them for yards. A saber saw makes it easy to trim wood in the way of any very low scenery elements, and whole sections can be dropped by using end panels of twelve-inch wide board or plywood. All joints are glued and screwed to-

5

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5051 HEAT, STEAM AND SNOW "Built for the Detroit, Toledo...Ironon Railroad Company... in 1939. No 705, a 2-8-4 class, etc." "Merry Christmas and Happy New Year"



5046 A FLURRY OF BLUE AND GOLD "...Baltimore & Ohio's crack streamlined train, 'The Cincinnati', etc." "Merry Christmas and a Happy New Year"



5038 THREE FOR THE HILL "...three Maine Central 'Mikes'...head for...Crawford Notch...in ...New Hampshire., etc." "This brings a prayer at Christmas time that God will... bless... you... those you love... with lasting happiness..."



5002 HOLIDAY LOCAL TO THE NORTH COUNTRY "...a light 'Pacific Type' locomotive of the Boston & Maine...Headed toward the White Mountains, etc." "Peace and Good Will at Christmas and through all the New Year"



5020 FULL STEAM FOR A LONG LOAD "The famous Y6-B, a true Mallet built by the Norfolk & Western Railway in 1948, etc." "May the Peace and Happiness of the Christmas Season abide with you through all the Coming Year"



5050 "To those we love and see each day, And other loved ones far away, To all good friends whose friendship means so much, And those with whom we're... out of touch...Merry Christmas and Happy New Year"



5036 A PUSHER FOR THE PASS "...this 1910 vintage train is starting up one of the...mountain grades of the beautiful Pacific Northwest., etc." "Merry Christmas and a Happy New Year"



5014 THE WABASH CANNONBALL "...ran for many years along the Wabash River on the route between St. Louis and Detroit., etc." "With Best Wishes at Christmas and Happiness through all the Coming Year"



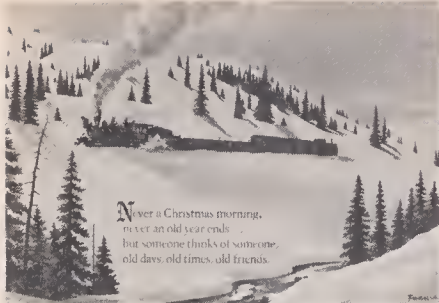
5005 THE GG-1 ON A CHRISTMAS RUN "...139 of this great model, designed in 1934, were built and most are still running., etc." "May the Peace and Happiness of the Christmas Season abide with you through all the Coming Year"



5037 ALASKAN MONARCH "...The diminutive 1920 vintage 'mixed' train of the Alaskan Railroad, etc." "May Peace be your Gift at Christmas and your Treasure throughout the New Year"



5029 DONNER PASS ON CHRISTMAS DAY "...these powerful 3600 HP Units are the modern work force of the Southern Pacific., etc." "Peace and Good Will at Christmas and through all the New Year"



5004 THE C & S—ON TOP OF THE WORLD!
 "Never a Christmas morning, never an old year ends...someone thinks of...old days, old times, old friends." "Happy Holidays and Best Wishes for the Coming Year!"



5035 THE "DOMINION" ALONG THE BOW RIVER "The pride of the Canadian Pacific Railroad, etc." "May the meaning of the Season be deeper, Its friendships stronger, As Christmas comes to you this year"



5013 GREEN FLAGS FOR A CHRISTMAS RUN "The 20th Century Limited...roars down the Hudson...the pride of the New York Central Railroad., etc." "May the meaning of the Season be deeper...As Christmas comes to you..."



5034 THE GREAT DAILY RACE OF THE BROADWAY AND CENTURY "...a daily six mile race through Chicago's Southside., etc." "Merry Christmas and a Happy New Year"



5052 PENNSY'S MIGHTY M-1 "...Pennsylvania Railroad's...M-1s handled the fastest freights...until 1957., etc." "May there come to you at this holiday time an abundance of Health, Happiness and Enduring Friendships"



5027 MOONLIGHT RUN ON THE SOUTH PARK LINE "...rugged little three-footers in a 2-8-0 wheel arrangement were built by Baldwin in 1890, etc." "Wishing you all the Joys of Christmas and a Year of Happy Days"



5048 "Whatever else changes through the years ...Christmas remains to brighten all hearts with its.. beauty, May its light shine...and bless you with joy and happiness throughout the...Year"



5041 PRIDE OF THE NORTHWEST "...this Mountain Type...locomotive was used by the Great Northern Railway, etc." "From our crew to yours.. Merry Christmas and..Happy New Year!"



5049 RATON PASS-1940 "...#1696 provides rugged help for two year old, 80" driven #3771., etc." "Merry Christmas and a Happy New Year"

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25	\$7.95
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5005	5034	5048
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5020	5037	5051
5027	5038	5052

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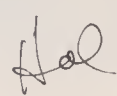
gether for strength. The carriage bolts to join the units are $\frac{1}{4}'' \times 2\frac{1}{2}''$ long.

In building the layout, it is probably best to avoid putting turnouts over joints, though pulling up a few is still far better than tearing everything down. Best of all, adding new sections is easy, even if, when moving the railroad, it doesn't fit just as it did in its old home. Why not make the units larger? This is a size that is moveable—remember that fellow with his boat.

Sacramento

The Sacramento Railroad Museum, an adjunct of the Old Sacramento restoration in Sacramento, California, opened to the public this past May. The collection of railroad locomotives and cars originated with a R&LHS collection which was amassed over nearly 50 years. Taking part in the ceremonies were a Southern Pacific *Daylight* loco, which recently saw service on the Freedom Train operation, plus a newly refurbished Union Pacific Challenger and the fan-tripping 8444 Northern. A full account of the steam trains and the railroad museum are found in the current issue of *RAILFAN & RAILROAD*, available at hobby shops and newsstands. If your local hobby dealer doesn't carry *RAILFAN & RAILROAD*, tell him he'd be doing you and other customers a service by so doing.

Small world department

Wagner Car Company's Rich Wagner and I were chatting about model trolleys and the conversation drifted around to family and kids. Rich announced proudly that his daughter was in the process of being ordained into the ministry. Not to be outdone, I said as how daughter Heidi had hunted for a small college offering commercial aviation and had found one in Longview, Texas: LeTourneau College. Three months after enrolling, she switched to a biology major. Rich countered that in World War II he had been a patient in an Army hospital in Longview, which let me recount that the LeTourneau campus had started out as an Army hospital, and that I had been stationed there briefly during that war in the X-ray department when it was Harmon General Hospital (but not when Rich was there). More curiously, the LeTourneau family who had started the college had merged their earth-moving business with the Marathon Corporation, and LeTourneau Marathon was today a subsidiary of the Penn Central Corporation. 



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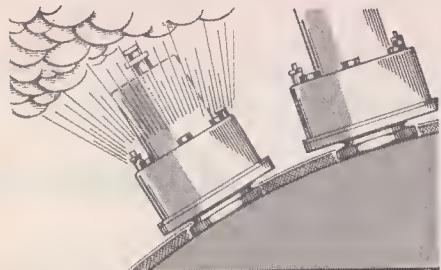
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- 1703 Bangor & Aroostook

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- 1705 Kansas City Southern
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- 1707 St. Louis Southwestern
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Returned to the hobby

After being out of the hobby for more than 25 years, I returned last year as a convert to N scale. So much has happened for the better over the years, and I find this hobby now more rewarding than ever. I especially find RMC to be a real joy. The wealth of helpful tips in each issue have proven to be very helpful to me in my attempt to create a realistic looking layout. I particularly enjoyed both the cover and contents of the June issue.

A. B. JAUSWA
Aybee Junction R.R.

Another happy oil man

In the June issue of RAILROAD MODEL CRAFTSMAN, I read Don Fiehmman's article on oiling track with interest. I have an outdoor layout which is subject to extreme weather conditions, as well as a sap accumulation from an overhanging tree. Dust is also another hazard for this layout, which comprises about 300 feet of track. As no track cleaning had taken place since early spring, a considerable amount of Black Crud was evident. I applied three drops of Wahl clipper oil on each rail at three foot intervals and one drop of oil to the pick-up wheel of each locomotive. Using half

throttle on the controller, the locomotive moved away smoothly. One locomotive was allowed to run for an hour and a half non-stop, and it did not hesitate once, in spite of the fact that there is one gradient on the layout which does tend to test a locomotive's hauling power.

DR. F. V. EDWARDS
Dawson Creek, B.C.

Pasties and the U.P.

In regard to Bill Schaumburg's article in EDITOR'S NOTEBOOK, (July, 1981) concerning the Upper Peninsula of Michigan, I have a few comments to make. I am a die-hard Michigander and also a Finnlander, and I haven't heard of putting cream on pasties, but everybody to their own taste. The thing to put on pasties is catsup. Also, if you let them cool off and warm them up the next day, the flavor is even better. My mother adds carrots to the recipe. Pasties can also be made in a pie pan with a crust put over the top. Which ever way you make them, they are delicious.

I felt the article was very interesting, as I have been to the places that were mentioned. Reading it was like "old home week."

I am in the process of modeling the area around Calumet, Hancock and Lake Linden. The layout will be "L" shaped, with one part being 3'x16' and the other 5'x9'. There will be a two to three percent grade from Calumet to Hancock, a distance of 30 feet.

IRVIN PETER
Fridely, Minn.

Public apology

I am extremely sorry for the unreasonable delay in the completion and distribution of Nelson's Model Railroad Supply Company's new catalog. Not only was it simply an overwhelming task for one person, but many unforeseeable problems cropped up along the way which further delayed its completion. You will be happy to know that by now, all copies have been received by those who bought them. If not please let me know.

As one who has often been super-critical of others, my lack of good judgement in this matter was inexcusable. I have never condoned the advertisement of any items which are not available. I can only hope that those of you who believe that "to err is human, to forgive divine" will overlook this. The catalog

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My hat's off to you guys at RMC, who produce a beautiful magazine every month and on time yet!

And as for me... fifty lashes with a rolled up, wet copy of my catalog!!

Thank you very much for allowing me this space.

NELSON E. TIMKEN
Manager

Nelson's Model Railroad Supply Co.

Operations and facing points

I recently came across an interesting move that I thought I could share with RMC's readers.

Most modelers have heard of the "flying switch" move where a car coupled behind the locomotive is dropped into a facing-point siding by momentum; we can't duplicate this task easily with our couplers, so we have to call out the "big hook" (hands). I recently saw a work crew with a self-propelled crane, several work cars and a caboose. A gondola of supplies had to be placed in a facing-point siding and the main was unavailable for a run-around. The crane could not get up enough speed to roll clear of the gon, so the crew cut

off the gon and the crane operator clamped onto its end with the bucket. Then the crane backed up with the car in tow, swinging the boom over the siding to lead the car in.

Now all we need is a remote-controlled crane!

ALAN OLSON
Mound, Minn.

Jim Findley's description of G&D way-freight operations shows that there is still room for improvement in the hobby's understanding of prototype operation. While the shoving of cars is provided for in the Standard Rules (see Rule 103), such movements are time-consuming, not all that safe, and are avoided when possible.

How to spot a car on a facing-point switch, then? The prototype will start rolling down the track, cut off the car and accelerate away from it, then throw the switch and let the car coast into the siding with a crewman tending the brake wheel. Where such a move is unsafe, the cars would be taken past the siding and set out where they can be picked up by a train moving in the opposite direction or by the train on its return trip. Safe and simple.

HORACE HART
Columbus, Ga.

Things we would like to see

How about an article on radio control engines? R/C is more flexible than command control.

ROB GIRLING
Winnipeg, Man.

I'd like to see articles about Mexican rolling stock, wreck train modeling, using mill gons

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DEANE BJELLA
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I need information about the Vermont Railway's operations and would be willing to exchange data on the BN in the Cascades.

RICHARD XAVIER
626 NW 82nd St.
Seattle, WA 98117

I'm looking for information on the operations of the Louisville & Nashville, especially about their passenger trains.

ANTHONY MARTINUCCI
3815 Walnut Ave.
Niagara Falls, NY 14301

Does anyone have any information about the later-era steam operations on the P&WV?

MARK BIGGART
2528 Willowbrook Dr.
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412 De Witt's Depository	17.49
413 Carsten's Flophouse	27.99
415 Saez Sash & Door #1	24.49
417 Saez Sash & Door #2	25.99
419 Montgomery's Feed & Seed Co.	24.49
420 Santangelo Fruit Co.	22.99
422 Richmond Barrel Co.	16.79
423 Kiowa Junction	16.79
424 Kiowa Tower	12.59
425 Kiowa Details #1	8.99
426 Kiowa Details #2	8.99
427 Freight Storage Shed	8.99
428 Ten Stamp Mill	11.19
429 Red Mountain Mine	20.99
430 Carriage Works	13.99
751 Timber Trestle	10.49
761 Deck Timber Trestle	8.99
762 Thru Timber Trestle	8.99
763 Single Track Truss Bridge	10.49
764 Double Track Truss Bridge	10.49
765 Deck Plate Girder Bridge	7.69
766 Thru Plate Girder Bridge	8.39
788 Tie Stain 8 oz.	4.49
790-794 Ballast	1.29
795 Coal Load	1.29
796-799 Ties	pkg. 2.99
801-804 Corrugated Aluminum	1.59
Oil Drums or Barrels	pkg. 1.39
Brass Light Shades - 6	1.19
Chain - 12"	1.39

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40' Boxcar or Reefer	2.29
50' Boxcar or Reefer	2.49
40' or 50' Flat Car	2.29
Tenk Cer-sgl. or 3 dome	2.29
Chemical Tank Car	2.49
40' Hopper or Stock Car	2.29
50' Gondola	2.29
200 Ton Crane	5.99
Ctr. Flow or Covered Hopper	2.79
Reg. or BW Caboose	2.69
Wide Vision Caboose	2.79
34' Hopper	2.19
57' Mech. Reefer	2.99
Passenger Car	4.39
Freight Trucks	pr. 79
Pass. Trucks	pr. 1.49
BEV-BEL-HO	
Custom Printed Athearn & Other Cars	
Complete Line In Stock	
Most Freight Cars	3.99
Passenger Cars	5.99
E&B VALLEY-HO	
70 Ton AFC Covered Hopper	5.60
AFC MK Ballast Car	6.40
Mill Gondola	6.40
Hon 3 RGS Caboose	11.99
Pullman Stender Coach	12.79
DETAILS WEST-HO	
50' Double PD Boxcar	3.49
50' Comb. Door Boxcar	4.99
ROUNDHOUSE-HO	
Ore Car	1.99
Covered Hopper	3.49
3 Bay Hopper	2.39
50' Gondola	2.99
Religon	3.99
26' Ore Car	2.39
50' Boxcar FMC	2.99
50' Boxcar ABOX	2.99
50' Boxcar PS Rib	2.99
40' AAR Boxcar	2.79
40' Roundtop Boxcar	2.79
50' SD Boxcar	2.79
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52' Rapid Discharge Hopper	2.99
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100 Ton Hopper	3.49
100 Ton Hopper-3 pack	9.99
Hopper Topper (2)	3.49
TRAIN MINIATURE-HO	
Hopper Car	2.99
Hopper Car-3 pack	7.99
40' Boxcar	2.99
BACHMANN-HO	
Amfleet Coach	8.99
Full Length Dome Car	5.99
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Old Time Combine	3.99
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AFC Ctr. Flow Hopper	3.99
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Hon 3 Boxcar	7.99
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B&O I-5 Caboose	5.99
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S.L. Pass. Car RTR	14.99
S.L. OBS Car RTR	17.99
O.T. Pass. Car Kit	2.49
ATLAS-N	
70 Ton Ore Car	1.99
Beercan Tank Car	2.49
90 Ton Hopper	2.49
40' PD Boxcar	2.49
40' Boxcar	1.99
40' Stock Car	1.99
42' Gondola	1.99
50' Stock Car	2.49
Caboose	2.49
50' DD Boxcar	2.99
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 Box Car Red or Tuscan Red
 40' Boxcar or 50' PD Boxcar
 2.49ea 24/49.95

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Old Time Freight Car	2.99
Old Time Pess. Car	3.99
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S.L. Pass. Car	4.99
Track Cleaning Car	9.60
Riv. Pass. Car	7.99
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Std. Coach w/Interior	4.99
Std. Combine w/Interior	4.99
Std. Obs. w/Interior	4.99
Roeds Amtrek, PRR, SF, SR	
Auto Transport	6.99
Crane Car	8.99
ROUNDHOUSE-N	
50' Gondola	3.99
50' Boxcar	3.99
KADEE-N	
Assort. Cars-Our Choice	5.99

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 IS OUT OF STOCK**

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Tech 11 Cab Control	19.99
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extre receiver for above	14.99
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DC Voltmeter 20-0-20	4.99
DC Ammeter 5-0-5	4.99
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Dual Coil Switch Machine	6/24.99
Mini DPDT Ctr OFF Toggle	2.10
Mini SPDT Momentary Toggle	1.99
Mini SPST Toggle	1.29
HO 2 Ilte Semaphore	7.99
HO 2 Ilte Signal	4.79
HO 3 Ilte Signal	4.99
HO PRR 8 Position Signal	7.49
HO or N Crossing Signal	
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HO 2 Ilte Ground Signal	3.19
HO 3 Ilte Ground Signal	3.29
N 2 Ilte Semaphore	8.99
N 2 Ilte Signal	3.99
N 3 Ilte Signal	4.79
N PRR 8 Position Signal	6.99
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Grain of Rice Bulbs 12V (2)	1.29
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Mini Bulbs 12V or 1.5V	.99
Super Micro Bulbs 1.5V (3)	5.99
MODEL POWER	
Smoke Unit	3.99
Wire 1, 2 or 3 cond. roll 1.29	
Wire-1 cond.-500'	12.99
Wire-2 Cond.-200'	14.99
Wire-3 Cond.-100'	11.99

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303	2.19
306	3.59
308	4.59
818	8.49
498	2.29
416	2.29
403	2.89
406	3.99
406	4.99
916	9.99
439	7.99
MISCELLANEOUS	
12V GOW Bulbs	2/ .99
12V GOW Bulbs	10/3.99
12V GOW Bulbs	50/14.99
Choose red, green, amber, clear	
Terminal Strp 8 post	
Terminal Strp 12 post	
Terminal Strp 20 post	

CENTRAL VALLEY TRUCKS-HO	
Arch Bar or Bettendorf	pr. 2.99
Rollerbearing	pr. 2.99
Hon 3 Archbar	pr. 4.79
Fox Trucks	pr. 5.49
4 wheel Passenger	pr. 5.99
6 wheel Passenger	pr. 6.99
Kingpins	.99
Minimum freight truck purchases - 6 pair	

ATLAS HO

ATLAS	
N.S./Plastic Superflex	10/9.99
N.S./Plastic Superflex	100/79.95
Brass/Plastic Superflex	10/8.99
Brass/Plastic Superflex	100/74.95
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C.L. Turnout Brass	1.89
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Brass Snaptrack-1/2 sections	4/ .89
N.S. Snaptrack-full sections	10/3.49
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Terminal Joiners-pr	.49
Brass Crossing	2.39
N.S. Crossing	2.49
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Rerailer-Brass	.49
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Uncoupler Track-Brass	1.19
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Control Box	.99
Connector or Twin	1.99
Selector	1.99
Controller	2.39
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Plastic Rail Joiners (24)	.49
Bridge with track	1.79
Turntable with motor	14.99
Pier Set	4.99
N.S. Rail Code 100-99'	9.99

EMPIRE CITY	
N.S. Flextrack	10/7.99
N.S. Flextrack	100/69.95
Cork Roadbed-25 3/4 sections	8.99

LAMBERT/SHINOHARA	
HO Code 100 N.S.	
Flextrack	10/33.20
#4 Turnout	6.25
#6 Turnout or Y	6.80
#8 Curved Turnout	12.99
#8 Curved Turnout	16.29
#6 Three Way Turnout	17.49
HO Code 70 N.S.	
#4 Turnout or Y	5.99
#6 Turnout	6.39
#6 Double Slip	23.79
#8 Turnout	8.99
Flextrack	10/28.49
Hon 3 Code 70 N.S.	
Flextrack	10/28.49
#4 or #6 Turnout	5.75
HO/Hon 3 Code 70 N.S.	
Flextrack	3.99

COMPLETE LAMBERT LINE IN STOCK

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MAGNUSON MODELS - HO	
502 Miners Union Hell	15.99
504 Grain Exchange	17.49
505 Victoria Falls Hotel	19.99
506 Victorie Falls Townhouses	19.99
507 Bank of Victorie Falls	12.49
510 Fountain Brewery	19.99
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Warehouse	18.99
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519 Powerhouse	24.99
521 Wengle's Dept. Store	19.99
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527 VFWD Pumping Ste.	21.99
528 Allen's Wrench & Mfg. Co.	24.99
529 Wise Supply Co.	24.99
530 Municipal Bldg.	26.99
531 40's Ere Ges Ste.	26.99
533 Victorie Falls Transfer	
Service	24.99
702 Miners Union Hell Front	8.49
704 Greln Exchange Front	8.99
705 Vic. Falls Hotel Front	12.49
707 Bank of Vic. Falls Front	8.99
534 Merchants Row	24.99
302 Retaining Wells (2)	4.99
910 '48 Ford Coupe (2)	3.99
911 '39 Chev. Sedan Delivery (2)	3.99
912 '53 Chev. Belair (2)	3.99

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PECO TRACK	
Medium Turnout	5.99
Long Turnout	7.99
Curved Turnout	7.99
Switch Motor	3.49
RAPIDO TRACK	
Flextrack - 28"	10/ 29.99
Straight Track	.99
Curved Track	.99
Remote Switch	14.49
Manual Switch	8.99
Remote Curved Switch	15.99
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639 Fon-du-Lac Pass. Ste.	8.80
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641 Freight Station	3.19
642 Stall Engine House	8.19
643 6 Stall Roundhouse	17.99
645 Freight Platforms	4.79
646 Manual Turntable	23.99
646M Motrilizing Kit	17.99
648 Railway Yard Set	8.80
652 Sand & Gravel Silo	3.19
653 NYC Coaling Station	4.99
661 Sante Fe Arch Bridge	4.99
665 Transfer Crane	4.99
666 Trestle Set	8.80
670 Grain Mill	4.99
671 Foundry	4.99
672 Furniture Factory	4.99
673 Meat Packing Plant	4.99
674 Cold Storage Warehouse	4.99
675 Appliance Warehouse	4.99
676 Steel Supply Warehouse	6.39
677 Grain Elevator	9.60
679 Brewery Bottling Plant	21.60
681 Slaughterhouse	21.60
601 2 Brothers Rest.	8.80
602 2 Retail Stores	8.80
603 Bank Building	8.80
604 Woolworth Store	8.80
605 Fire House	8.80
610 Coal Yard	8.80
611 Drug Store	8.80
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752 Timber Trestle	7.99
753 Low Curved Trestle	4.99
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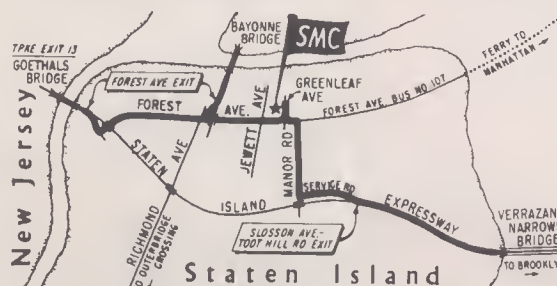
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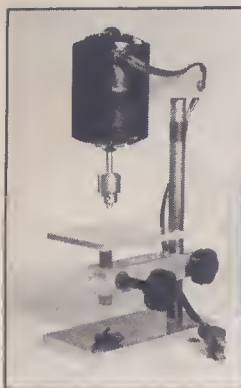
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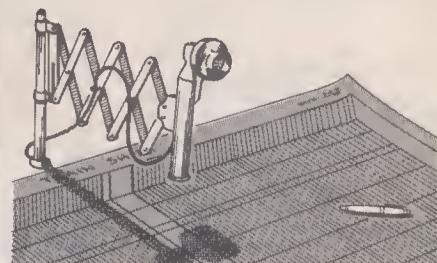
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Dispatchers Report



product news

Last Runs

Percy Kemp, 73, president of *Dyna Models*, Sangerville, Maine, passed away on June 22, 1981. Percy started the company in 1946, first making model airplane parts castings in metal. The quality of the parts brought good comments from model railroaders, so he also got into model railroading and soon introduced a line of HO and O castings. These were followed by a line of structure kits. Dyna Models continues as a family business, headed by his son, Tom Kemp. Donations in Percy's memory may be made to the American Cancer Society.

Boyce F. Martin, a true gentleman and a fine person to know in print or in person, passed away recently. Boyce had authored many fine articles for RMC as well as for *Model Railroader* and the *NMRA Bulletin*. His Osage Valley Railroad served as a modeling inspiration to many in the hobby. Boyce was a Georgia native, but lived in the Louisville area much of his life. In addition to his many model railroad accomplishments and activities, he had been a dean at two universities and had authored several books dealing with business subjects.

Correction

The *Southeastern Region* of the NMRA has an authentically-lettered HO model Tennessee Central RR outside-braced hopper car numbered 801. The model is a black car with white lettering and peaked ends. Send check or m.o. for \$5.25 per car to: Mr. Bill Hale, 1307 Old Shell Road, Mobile, AL 36604. Please make checks payable to SER/NMRA. Incorrect ordering information was given in the August RMC.

Industry News

J & M Distributors of 2305 Tustin, Newport Beach, CA 92006 has purchased Evergreen Hill Design and Kappler Lumber Co. Dealers can order the fine kits and products of these two firms from J & M at the above address.

RMC's first Dremel Kitbashing Award winner, Ray Hobin, is doing custom painting work under the *Witchcraft Models* name. They offer custom finishing, weathering and repairs of locomotives and rolling stock. Lionel work is also done, but is limited to repainting postwar steam locomotives. Brass imports are also done. One dollar will bring an appropriate color photograph if you indicate your interest of steam, diesel or Lionel. The address is P.O. Box 15572, Durham, NC 27704, or call 919/477-0208.

Custom Control Systems has moved and is now known as *Allen's Custom Control Systems*. Formerly of 2339 Hollister Terrace, Glendale, California, the firm is continuing software development of its line of computerized control systems. For further information, contact Dave Allen at 213/352-9342.

N scale product news

Detail Associates, P.O. Box 197, Santa Maria, CA 93456, has some new detailing items for N scalers. They are as follows: Part 8416, drill press and stand, \$1.00; 8417, grinder and stand, two for \$1.00; 8419, mailbox, two for \$1.00; 8420, passenger car steps, four for \$2.25; 8021, sand dome (Baldwin intermediate style), two for \$1.00; 8022, steam dome (Baldwin intermediate style), two for \$1.00; 8023, stack (Baldwin intermediate style), two for \$1.25 and 8024, feed water heater (Worthington recessed), two for \$1.00.



Kearsarge Truck Rail Terminal (\$15.25), a gantry crane (\$15.50), and the Crystal River Smelter (\$14.95) are new N scale structures from *Muir Models Inc.*, 2020 So. Susan, Unit E, Santa Ana, CA 92704.

HO scale product news

The Iron Horse, 116 S. Brea Blvd., Brea, CA 92621, is offering a track cleaning device for use under freight cars.

The following models will be imported by *Overland Models Inc.*, RR 12, Box 445, Muncie, IN 47302: UP DC-3 rail detector car, NP A-2 4-8-4, UP C-7 2-8-0, GE C30-7, GN transfer caboose, and a Frisco wood caboose in both the steel and wood cupola versions.

E. Suydam & Co., P.O. Box 55, Duarte, CA 91010, has HO scale Pacific Electric pneumatic trolley poles available for \$9.95 per pair. They are also offering Eclipse traction fenders as used on the PE cars until WW II. These sell for \$13.95 per pair.

Clear Creek Models, 42 Greendale, St. Louis, MO 63121, is offering two D&RGW HO n3 high-sided gondolas. The kit comes either weighted or unweighted, and with or without trucks and couplers. They sell for \$9.95, without trucks and couplers, and \$15.95 with.

NJ International Custom Brass, 22 W. Nicholai St., Hicksville, N.Y. 11801, has announced three new models: an Erie S-2 4-8-4, an early-model GE 44 tonner, and a PRR P-70 coach. Expected soon are a CMStP&P EP-3 electric, a Virginian Railway 2-8-8-2, a Reading I-8 2-8-0, and two versions of the B&M S1 2-10-2.

Hunts Tomato Cannery (No. 082), which retails for \$21.95, and the Cincinnati Yard Tower (No. 083), which sells for \$19.95, are the latest kits from *Muir Models Inc.*, 2020 So. Susan, Unit E, Santa Ana, CA 92704.

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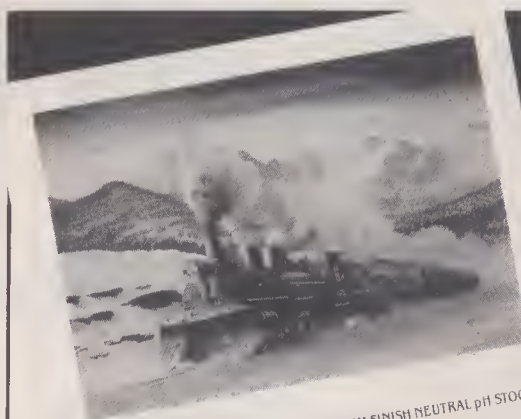
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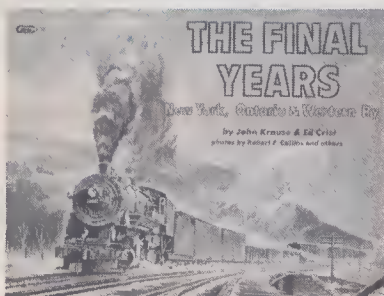
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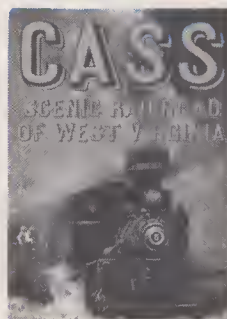
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The Ramax Co., 1007 S. Menlo, Sioux Falls, SD 57105, has announced plans for the release of their ACF two-compartment center flow covered hopper kits in the following road names: GN, D&RGW, BN, C&NW, SOU, and B&O (Chessie System).



Key Imports Inc., 655 Redwood Hwy., No. 165, Mill Valley, CA 94941, is offering two versions of the USRA Light Mountain in HO scale.

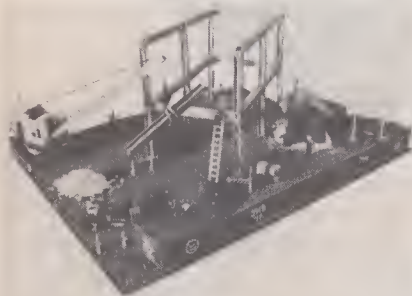


The SP GS 4-8-4 Daylight series is available from Westside Model Co., P.O. Box 99, Aptos, CA 95003. The GS-2, GS-3, GS-4, and GS-5 are factory painted. The GS-2 and GS-6 also come unpainted.

Trackside Custom Painting & Parts, 55 Alvin St., Providence, RI 02907, is offering EMD Flexicoil sideframes to fit an Athearn SW1500 switcher. These come with machined bronze bearings and brass brake cylinders and retail for \$6.50.

Milk trucks in both kit and assembled form are available from The Miniature Vehicle Manufacturing Company, Westboro, MA 01581. The assembled version sells for \$17.50, and the kit is priced at \$12.95.

C.A. Forter, Jr., 801 Twin Diamond Road, Roswell, NM 88201, is handling the orders for a commemorative boxcar being produced by the Roadrunner Division of the Rocky Mountain Region, NMRA. Two versions of the car are available. A standard steel boxcar lettered RRD 1981 costs \$6.95, and a wood sided version is \$7.50, postpaid. The cars feature custom painting and decaling, and checks should be made payable to the Pecos Valley Society of Model Trainmen.



Life-Like's newest addition to their Build-A-Scene kits is item No. 1375, called the construction site. Life-Like is located at 1600 Union Ave., Baltimore, MD 21221.

A 120-ton steam wrecking crane will soon be available from The Gould Company, P.O. Box 463, Verdugo City, CA 91046. It will feature over 150 styrene parts and illustrated.

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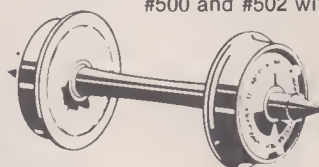
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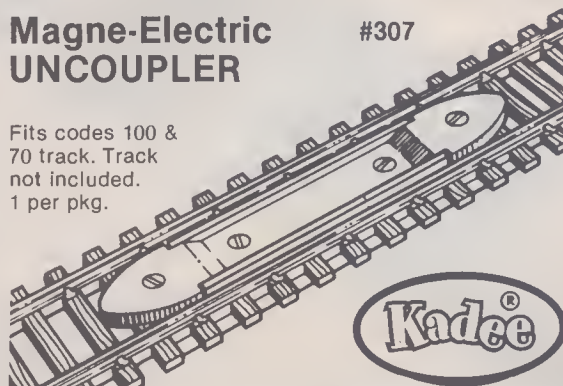


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step-by-step instructions.

Three versions of General Electric's U25B diesel are offered in brass by *Oriental Limited*, 4001 N. St. Joseph Ave., Evansville, IN 47712. High hood, low hood early body style and low hood intermediate body styles are the three types made.

Among the latest HO items in stock at *Hallmark Models*, 4822 Bryan St., Dallas, TX 75204, are the EMD GP15-1 in two body styles, the ATSF CF7, Wabash 0-6-0, Frisco 4-8-4 and MKT 2-6-0. They have a variety of new models in the works for later this year. Among these are the EMD GP50, CB&Q *Silver Charger* passenger diesel, along with three car original train, and an assortment of traction and narrow gauge rolling stock.

Lenahan Family Enterprises, 742 Manitou Ave., Manitou Springs, CO 80829, offers a radial stay type firebox backhead set. The set consists of seven pieces of soft metal castings, including the rear of the boiler. This is set 1052. Set 1053 is similar, but is designed for the Belpaire type boiler backhead. Both sets are designed for ten-minute assembly. Send an SSAE for more information and prices.

TS/D, P.O. Box 4082, Los Angeles, CA 90051, offers models of GMC and Mack buses. The GMC models are as follows: TDH-5307A, TDH-4507, and TDH-4905A. The Mack model is of the "BK" coach. Prices for these kits range from \$16.49 to \$23.95. California prices are slightly higher.

Commemorative car collectors can still obtain the special cars done for the Orlando NMRA convention. These are Athearn refrigerator cars in both wood and steel versions that have been painted by Con-Cor. The cars are orange with green roofs and ends, with appropriate markings. Send \$6.00 per car to *Aufseher Enterprises, Inc.*, 205 South Eola Dr., Orlando, FL 32801.

Wm. K. Walther's Inc., 5601 W. Florist Ave., Milwaukee, WI 53218, has a new line of pine trees. They come packaged in three different sizes: ten 7" trees (No. 933-986), four 12" trees (No. 933-985), and three 16" trees (No. 933-984). They sell for \$15.95.

Northwest ShortLine, P.O. Box 423, Seattle, WA 98111, is importing a 13-ton Shay in both HO and HOn3. The mechanisms are NWSL's own, made in their Seattle plant. The model is fully reserved, but a standby list is

open. This company is also producing wheelsets for upgrading models; they are precision machined, all metal, insulated on one side, and some sets are offered in the code 88 tread width (narrower than the common code 110 tread). Diameters available are 33", 36", 40" and 42". Prices for these sets range from \$3.95 to \$6.95.

S Scale news

Look for an Sn3 narrow gauge tank car from *NJ International/Custom Brass*, 22 West Nicholai St., Hicksville, NY 11801. The car is a brass import.

JC Models will be releasing heavyweight passenger cars in S scale. Send an SSAE to them at P.O. Box 30111, Cincinnati, OH 45230, for an illustrated price sheet.

O scale product news



Westside Model Co., P.O. Box 99, Aptos, CA 95003, has the PRR Q-2 4-4-6-4 duplex available in brass. The model features complete cab detailing, working reverse linkage on the valve gear for both engines and a KTM can motor.

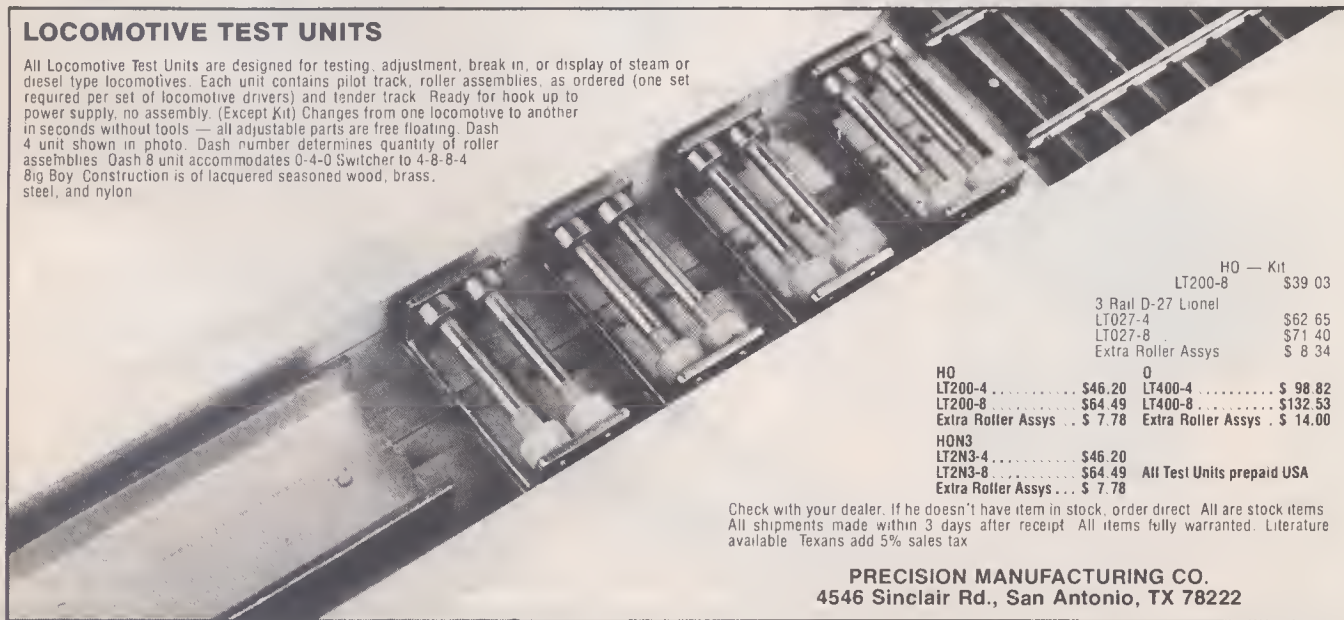
NJ International Custom Brass, 22 W. Nicholai St., Hicksville, NY 11801, will be importing a GN L-2 2-6-6-2 in both coal and oil burning versions.

An O scale Thrall high side gondola kit (No. 501) is due out from *Don Winter*, 655 Newport St., Denver, Colorado 80220. Also expected is a West Side skeleton car (No. 160), Jordan spreader OU (No. 161), a Shay-powered steam roller (No. 164), a C&S caboose (No. 169), and John Deere and Waterloo Boy tractors (Nos. 170 and 171).

The Erection Shops, P.O. Box 518, Colma, CA 94014, has gas drums (No. ES 101) and aluminum beer kegs (ES 102) available at \$3.95 per pair. Expected in the future is an On3 taper sill flat car modeled after a 24-foot

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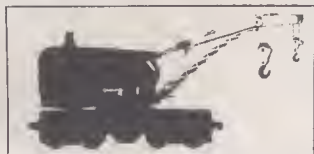
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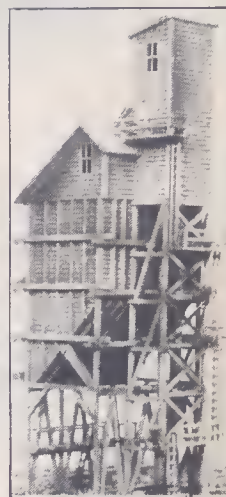
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HO GRABIRONS

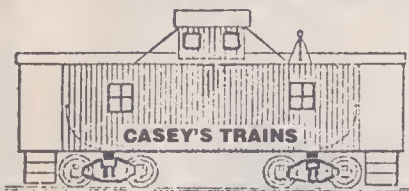
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Overland Models Inc., RR 12, Box 445, Muncie, IN 47302, has announced that they will be importing models of the UP's Alco C-855's in both A and B units.

A 65 ton Shay and a 70 ton GE diesel are currently available from *Sunset Models Inc.*, 138 W. Campbell Ave., Campbell, CA 95008. The Shay comes in both O and On3, and the GE diesel comes in both a pre- and post-war version.

Hallmark Models, Inc., 4822 Bryan St. Dallas, TX 75204, is offering a B&O wagon top boxcar, a PRR gondola, a D&RGW On3 business car, an AT&SF drovers car (series 930-947), an AT&SF baggage-caboose (2300 series) car, a T&P wood-sheathed caboose, and a cab interior set for diesels.

Styrene detail parts from *Russ Simpson*, P.O. Box 256, Smith Flat, CA 95727, are available for O and On3 rolling stock. They include ladders, caboose windows, bolsters and link and pin couplers. Some of the parts have previously been included in various kits from Simpson and others. Simpson is also producing a limited run of On3 logging flats.

AHM, 413 E. Tioga St., Philadelphia, PA 19134, is back in O scale; newly released is a metal and styrene modernized Baldwin 4-4-0 (based on a B&O prototype). It is available only on a direct reservation basis from AHM, and only 200 will be made. Delivery is scheduled for February of 1982. The price will be \$499.00.

Crankcase Productions, 828 Arguello, Pacifica, CA 94044, is offering a plan package for a five-post open air shed (No. PP-200). It retails for \$3.50.

Tarjany Publications, P.O. Box 46, Calabasas, CA 91302, is offering plan sets for an SP narrow gauge gondola (No. 1) and boxcar (No. 2). Plans for an SP standard gauge handcar shed should be available shortly.

Large scale product news

Don Winter, 655 Newport St., Denver, Colorado 80220, is planning to develop an initial line-up of eight to ten plastic kits based on American prototype four wheel freight cars that will be compatible with LGB equipment.

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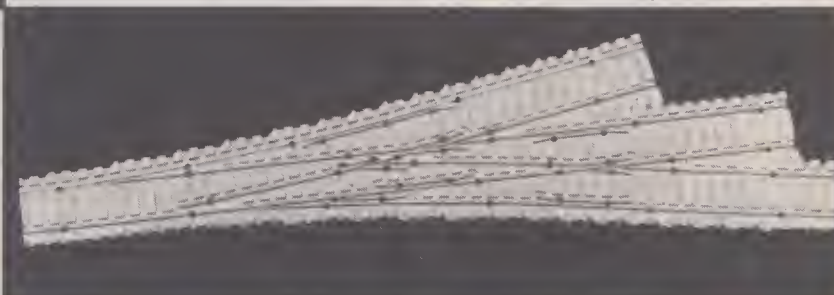
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ND 58701, has released the following decal sets: NYC passenger car (HO No. PH-3, O No. P-3); ATSF jumbo covered hopper (HO No. HC-670, O No. CN-670); ATSF piggyback flat car (HO No. HC-700, O No. CN-700). The price is \$1.00 for the HO decals and \$1.95 for O scale.

Miniature Toys Inc., P.O. Drawer E, Westboro, MA 01581, is offering O scale decals for Trailways buses. The set sells for \$3.00.

New catalogs

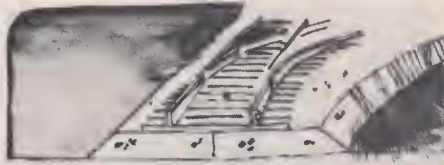
Lionel (26750 23 Mile Rd., Mt. Clemens, MI 48045) has a catalog of their line of toy trains and accessories. It covers traditional and collectors series and the American Flyer S gauge. The price is 75¢.

JMC International, 1025 Industrial Drive, Bensenville, IL 60106, has the *Source Book* catalog series listing a wide range of products for the model railroader. The books are arranged in six categories aimed at the specific needs of the modeler. With the exception of Volumes 5 and 6, each source book cost \$3.00. The contents of each source book is as follows: Volume 1 covers N scale including engines, rolling stock, structures, signals, etc. Volume 2 covers all the HO rolling stock products that JMC distributes. Volume 3 lists HO and O structures and detailing parts. Volume 4 contains scenery and architectural supplies for all scales, plus tools, electrical equipment, show cases, paints and finishing supplies, vehicles, figures and how-to-do-it books. Volume 5 list books on prototype railroading and transportation in general. Emblems, patches, coffee mugs, collectables and gift items are included here. The cost of volume 5 is \$1.00. Finally, Volume 6 contains N scale parts for Con-Cor and Rivarossi models. The diagrams showing assembly and parts numbers will be useful. This book sells for \$2.00.

For \$1.00, you can obtain the Lionel catalog of the *Charles Ro Supply Co.*, 347A Pleasant St., Malden, MA 02148.

Greenberg's Summer Catalog lists a variety of books on model and prototype railroading, toy trains and railroad herald mugs; it costs \$2.00. *Greenberg's Price Guide to N Gauge Trains*, by Dallas Mallerich, III, is also ready now. This book will have over 50 full-page plates, including eight in full color, and it will sell for \$12.95, plus shipping charges.

Walthers 50th Anniversary catalog is due for an early fall release. It will have 576 pages listing the products of 270 different model manufacturers and will sell for \$8.95. It may be ordered directly from *Wm. K. Walthers*, 5601 W. Florist Ave., Milwaukee, WI 53218, or obtained at hobby shops.



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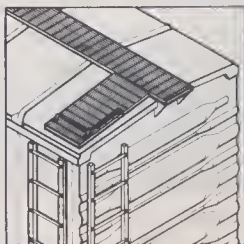
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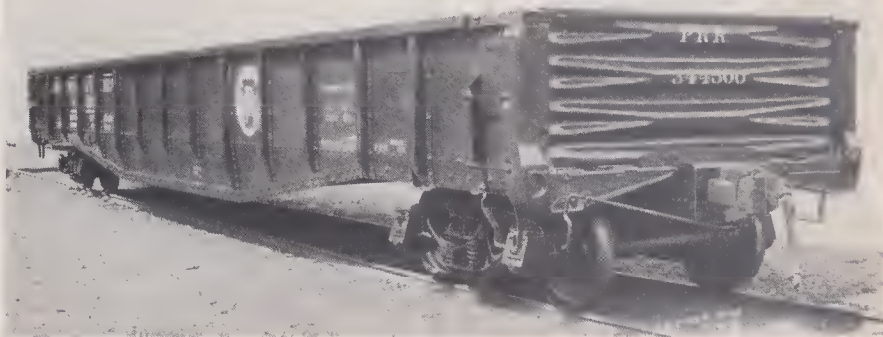
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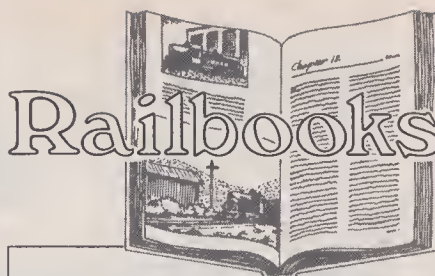
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book and recording reviews

Publications of Interest

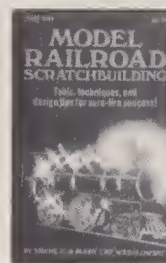
A number of publications are available from *S. Gaugian*, 310 Lathrop Ave., River Forest, IL 60305. *S. Gauge Building & Repair Manual* sells for \$3.50, plus 75¢ postage. *Cars & Locomotives* has 44 pages of articles reprinted from *S. Gaugian*; it costs \$3.50, plus 65¢ postage. *D&RGW Narrow Gauge Planbook* contains 56 pages of equipment diagrams; it costs \$6.95, plus 70¢ postage. A 120-page discussion of layout construction is contained in *Building & Operating Model Railroads*; it sells for \$9.95, plus 90¢ postage. The last two books can be useful to modelers in all scales.

Four-Eight-Fours on the Missouri Pacific, by W.M. Adams, is an 18-page look at the MP's 2201-2125 class. It is published by the *Missouri Pacific Historical Society*, Rt. 1, Box 152, Quincy, IL 62301, and it costs \$2.50.

Greenberg's Price Guide to American Flyer lists and shows American Flyer equipment,

along with typical prices of the equipment at press time. The book costs \$19.95 and is published by *Greenberg Publishing Co.*, 729 Oklahoma Rd., Sykesville, MD 21784. A companion "pocket guide" costs \$3.95.

New railroad books



Model Railroad Scratchbuilding, by Wayne E. and Mary Cay Wesolowski, published by Tab Books Inc., Blue Ridge Summit, PA 17214. Soft cover, 230 5 1/8" X 8 1/4" pages; \$9.95.

New products, materials, techniques and tools are things

that the model railroad scratchbuilder usually takes delight in finding and sharing. They serve to expand the range of activities. The Wesolowski's, both talented people whose work has appeared in RMC many times, demonstrate this very nicely in a handy new volume. The basics of scratchbuilding are generously supplemented with comments and tips that will encourage all modelers to use their creativity.

The book is of use to both the novice and experienced model builder. While the projects do not cover rolling stock, concentrating on structures instead, the information in them could be applied to that sort of construction too. The book is arranged into 13 chapters with a glossary, appendix of selected scratchbuilding suppliers and an index. The forward

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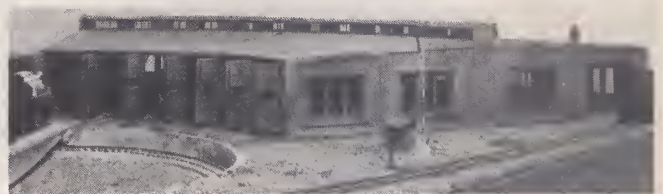
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SP	2-8-8-4 AC-9 cust/ptd	mint	475	PRR	4-4-4-4 T-1 cust/ptd	mint	390	TIMKEN	4-8-4 no. 1111 'Four Aces' new	new	229
USRA	2-6-6-2	excell	359	IC	Caboose, wood c/ptd	mint	75	LAMBERT			
ALCO				HALLMARK				RGS	Goose no. 5 3 truck bus body f/p	179	
AT&SF	DL-600b high hood c/ptd	mint	139	AT&SF	4-6-2 1369 class	new	179	RPO	Heavyweight (862) l/t	mint	49
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C-630	Diesel, low hood, tarnish	excell	139	M-K-T	0-8-0 C-2a class	new	189	UP	4-8-4 FEF-3 class	good	330
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C&O	4-6-4 L-2 class	mint	233	IRON HORSE/PSC				N&W	Tender 9,000 gal.	mint	35
C&NW	4-8-4 H class	new	278	D&RGW	0-6-0 S-33 class	new	169	ORIENTAL			
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D&RGW	4-8-2 M-78 class	new	229	D&RGW	On3 Coach no. 319	mint	159	GN	Caboose, 4 wheel, low cupola	59	
NYC	DES-3 Oil-electric	mint	99	D&RGW	On3 Combine no. 212	mint	139	GN	Coach no. 950-961	new	79
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UP	2-8-8-2 3570 class	new	660	KEY				GN	2-8-2 O-3 class	new	269
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and introduction express the sense of involvement and creativity that scratchbuilding engenders. It rekindled my enthusiasm for continuing some projects that had been languishing on my own modeling bench. I was interested to see that the authors make the point that they sometimes do experience a flagging of interest in a specific project, and they explain how they deal with it. I had to smile at Wayne's description of his workbench as a model progressed along. The clutter of wood scraps, parts and tools sounded so familiar.

The chapter on basic tools had several new items and ideas that were of use to me. It read very much like an RMC TIPS AND TECHNIQUES column. A suggested starter's set of basic tools will be helpful to the newcomer and methods of modifying commercial tools are discussed. The spring clothespin, with various changes is among the simple and effective tools, suggested. Some of the suggested weights for holding glued parts together are rather obvious, yet easily overlooked.

Types of wood, its selection and storing are an important part of any model project and are given coverage. Fractional lumber sizes and scale lumber charts offer a modeler quick and easy means of determining what sizes of dimensional stock he will need for a structure or piece of rolling stock. Painting, glues, adhesives and types of joints are discussed, along with ways of storing them.

There are six sample scratchbuilder projects that use the full spectrum of modeling mediums described in the book. The first one is a small bridge that has step by step instructions, as well as full-size HO plans. The second project is a wooden ice house. From here, the book goes on to a chapter on working with paper. Simulating wood and metal with cardstock is an inexpensive approach to modeling. The authors give some background information on the example's prototype and some general comments about why the structure was chosen.

There is an extensive treatment on building models from cast plaster. Pattern making, picking a prototype, selective compression, dealing with parting lines and making molds are covered. A highway bridge and chimney are the projects here. The chapters and projects follow along nicely in a skill-development sequence throughout the book. Eight pages of color photos in the center add modeling inspiration, as well as providing information on painting and weathering. Despite of the cover graphics, (a tinplate steam locomotive with light and filter effects) the material between the covers is outstanding—R.M.

RMC TIMETABLE

93

October 1981

G.E. Schenectady Division

Notice:

To ensure timely publication of event notices, typed double-spaced data in standard RMC Timetable format must be in Newton by the 15th of the third month preceding date of issue in which listing is to appear (e.g., September 15th for December issue). Person submitting the notice must sign it and include his/her home address for our records. Meetings open only to members should state "members only" and include membership fee if memberships are available at the door. Address notices to RMC Timetable, RAILROAD MODEL CRAFTSMAN, P.O. Box 700, Newton, NJ 07860. We cannot be held responsible for inconvenience caused by omitted or incorrect listings.

Organizational notices

VALLEJO, CA. Vallejo Model Railroad Club has openings for new members. Operating HO layout. Building O, N, HO on 2 area. Meets every Mon. and Weds. nights 7-9:30PM at the Civic Bldg., 900 Fairgrounds Dr. Info: Bob Berg, 707/644-0455.

MILFORD, DE. Diamond State Model R.R. club has openings for new members on a new layout. Mostly HO, but all scales are welcome. Meetings are every Wed. at 8:00PM at 607 Marsh St., Milford, DE 19963. Info: Dennis Hays, 302/422-3925.

AURORA, IL. The Little "O" Model Railroad Club, sponsored by the Fox Valley Park Dist., has openings for new members. HO layout with PFM sound system meets every Thur. and Sat. at 8PM at the Copley Recreation Center, 517 North Union St.,

WILLISTON PARK, NY: The Nassau Model RR Club has adult membership openings available—applications at 174 Hillside Ave. (rear basement entrance), Williston Park, NY 11596. Mon. or Wed. eves. 8 - 11 PM.

MANSFIELD, NOTTS, ENGLAND: Association of RR's of Middle Earth—an international group to cater for all railroad modelers who are Tolkien enthusiasts has been formed. American contact: Conrad Obregon, 1448 E. 26th St., Bklyn, NY 11210. Secretary: Lawson Little, 34 Noel Street, Mansfield, Notts, England. NG18 5NY.

THE ONTARIO & WESTERN RAILWAY HISTORICAL SOC., P.O. Box 713B, Middletown, NY 10940, invites interested modelers to join. Monthly meetings, 10 issues of the Observer, and national NRHS membership are included in the \$20 annual fee.

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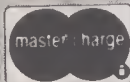
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9851 Schlitz	12.50
9852 Miller	12.50
9853 Cracker Jack (White)	12.50
9861 Tropicana	12.50
9870 Dutch Cleanser	12.50
9872 Pacific Fruit Express	12.50
9873 Ralston Purina	12.50
9874 Miller Light	12.50
9875 A&P	12.50
9877 Gerber Baby Food	12.50
9878 Good and Plenty	12.50
9812 Arm & Hammer	12.50
9813 Ruffles Potato Chips	12.50
9814 Perrier Water	12.50
9816 Brach's Candy	12.50
9817 Bazooka Gum	12.50
9879 Hills Brothers Coffee	12.50

Any six Billboard Reefers for \$71.20

Lionel Traditional Series

BIG LEAGUE CARS

9620 NHL Weles Conference	12.00
9621 NHL Campbell Conference	12.00
9622 NBA Western Conference	12.00
9623 NBA Eastern Conference	12.00
9624 National Baseball League	12.00
9625 American Baseball League	12.00
All Six 9600 Series Cars Listed Above \$69.95	
9359 National Basketball Association	
9360 National Hockey League	
9362 Major League	

All Three of the Above for \$75.00

OPERATING CARS

9280 Horse Transport Car	11.25
9301 Post Office Car	15.50
9302 Searchlight Car	11.25
9303 UP Log Dump Car	\$32.00 11.25
9304 C&O Coal Dump Car	11.25
9310 Santa Fe Long Dumper Car	11.25
9311 UP Coal Dump Car	\$32.00 11.25
9312 Conrail Searchlight Car	11.25
9218 Monon Mail Del.	20.00
9307 Animated Gondola	\$120.00 34.50
9308 Aquarium Car	48.00
9389 Radioactive Waste Car	24.00

TOBACCO ROAD

7701 Camel	9.00
7702 Prince Albert	9.00
7703 Beech-Nut	9.00
7706 Sir Walter Raleigh	\$59.95 9.00
7707 White Owl	9.00
7708 Winston	9.00
7709 Salem	9.00

DISNEY SERIES

9183 Disney Caboose	12.95
9660 Mickey Mouse Car	12.95
9661 Goofy Car	12.95
9662 Donald Duck Car	12.95
9665 Peter Pan	12.95

TURN OF THE CENTURY REEFERS

5700 Oppenheimer	18.25
5701 Dairymens League	18.25
5702 National Dispatch	\$70.00 18.25
5703 North Amer. Dispatch	18.25
5704 Budweiser	18.25
5705 Ball Glass Jars	18.25
5706 Lindsay Bros., Binder & Twine	\$70.00 18.25
5707 Amer. Refrigerator Co.	18.25

All 8 Turn of the Century Cars \$138.75

These cars have realistic, weathered look and have diecast sprung trucks with metal wheels.

FOOD FREIGHT

8160 Burger King GP-20D	\$79.00 70.00
6449 Wendy's Caboose	13.20
7509 Ken. Fried Chicken Reefer	12.50
7510 Red Lobster Reefer	\$35.60 12.50
7511 Pizza Hut Reefer	12.50

Engine and 4 Cars \$114.00

Engine and Caboose \$79.00

"S" GAUGE — AMERICAN FLYER

9101 Union 76 Tank Car	15.00
9300 Burl. North. Gondola	12.50
9400 Chessie Caboose	\$54.00 15.60
9701 Rock Box Car	13.80

HISTORIC AMERICAN RAILROAD

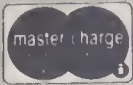
Series -1 Baltimore and Ohio

8153 Alco Diesel Eng. Twin A's	198.00
8154 Alco "B" Unit	54.00
9000 Flat Car w/Vans	13.80
9102 Tank Car	15.00
9201 Hopper	13.80
9301 Gondola w/Containers	13.80
9401 Illuminated Caboose	15.60
9702 Box Car	13.80
Twin Engines A & A 8154 B Unit plus 6 cars	320.00
Twin Engine AA's 6 Cars	80.00

Southern Pacific Daylight Passenger Set

8150 Alco Diesel Pow. and Dum.	198.00
9500 Combo Car	29.94
9501 Passenger Car	29.94
9502 Vista Dome Car	29.94
9503 Observation	29.94
Engine and 4 Car Set	\$301.00

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BREAK UP OF THE CROSS COUNTRY

8066 Toledo, Peoria & Western GP-20	62.00
9373 Getty Tank Car	15.00
9379 Santa Fe Gondola	10.00
9309 Toledo, Peoria & West. b/w Cab.	20.00
9428 Toledo, Peoria & West. Box Car	25.00
9232 Allis Chalmers Car	20.00
9374 Reading Hopper	25.00

Break up of the Mid Atlantic Set

8063 Seaboard SD-9	62.00
9369 Sinclair Tank Car	25.00
9371 Atlantic Sugar Hopper	25.00
9372 Seaboard b/w Caboose	30.00
9370 Seaboard Gondola	10.00

Break up of the Maple Leaf

8152 Canadian Pac. SD 24 6 whl trk w horns	100.00
6103 Canadian Natl. Covered Hopper	20.00
6305 British Col. Single Dome Tanker	20.00
6508 Canadian Pac. 6 Wheel Crane Car	35.00
6433 Canadian Pac. b/w Caboose	35.00
9441 Pennsylvania Box Car	35.00
9440 Reading Box Car	35.00

DIESEL COMBINATION & PASSENGER SETS

8050 Delaware & Hudson U36-C Pow.	
8051 Delaware & Hudson U36-C Dum.	
9355 Delaware & Hudson III. b/w Cax.	160.00
8064 Florida East Coast GP-9 Pow.	
8065 Florida East Coast GP-9 Dum.	
9382 Florida East Coast III. b/w Cab.	119.50
9443 Florida East Coast Box Car	
6200 Florida East Coast Gondola	137.95
8158 Duluth Missabe GP-9 Pow.	
8159 Duluth Missabe GP-9 Dum.	
6422 Duluth Missabe b/w Cab.	119.50
8071 Virginian SD-18 Pow.	100.00
8072 Virginian SD-18 Dum.	55.00
6401 Vir. Bay Window Cab.	150.00

LIONEL

NON OPERATING ACCESSORIES

2110 Graduated Trestle Set	7.90
2111 Elevated Trestle Set	6.60
2122 Extension Bridge & Rock Piers	13.50
2180 Road Signs	1.92
2181 Telephone Poles	2.22

2214 Girder Bridge	3.90
2280 Bumpers	2.22
2710 Billboards	2.22
2792 Layout Starter Pk.	15.90

WILLIAMS METROLINERS

4 Car Set (Ready to Run)	179.95
4 Car Madison Set	

Union Pac. to Match Lionel's #8002

Penn Roadname

ONLY 75 Sets Made

GGI Engine

Fairbanks-Morse Loco. Complete with

3 Position E Unit

WILLIAMS STOCK

GE-60 Non-Powered

Penn Central Amtrak, Conrail, Virginian

Pennsy. one Motor

Same roads, two motors

OPERATING ACCESSORIES

2171 Goose Neck Street Lamps	7.80
2301 Operating Sawmill	47.95
2302 U.P. Gantry Crane	29.40
2305 Oil Derrick	57.55
2140 Banjo Signal	16.20
2145 Auto Gateman	22.50
2151 Operating Semaphore	16.20
2152 Automatic Crossing Gate	13.50
2154 Automatic Highway Flasher	15.30
2162 Automatic Crossing Gate & Signal	16.50
2170 Street Lamps	6.60
2290 Lighted Bumpers	4.50
2313 Floodlight Tower	16.50
2314 Searchlight Tower	11.40

BUILDING KITS

2126 Whistling Freight Shed	16.20
2127 Diesel Horn Shed	16.20
2133 Freight Station (Lighted)	16.20
2709 Rico Station	12.00
2717 Short Exten. Bridge	2.94
2718 Barrel Platform	2.94
2719 Watchman's Shanty	11.00
2720 Lumber Shed	2.94

SERVICE & MAINTENANCE

2900 Lockon Bulk	.66
2901 Track Clips	2.40
2905 Lockon & Wire	1.18
2909 Smoke Fluid	1.56
2927 Maintenance Kit	3.30
2951 Track Layout Book	1.02
2953 Train & Accessory Manual	1.38

027 TRACK

5012 Card of 4 Curved Track	2.70
5014 1/2 Curved track bulk	.58
5017 Card of 4 straight	2.70
5019 1/2 straight track	.58
5020 90° Crossover	4.02
5023 45° Crossover	4.80
5030 Layout Builders Set	21.30
5033 Curved Track Bulk	.58
5038 Straight Track Bulk	.58
5041 027 Insulator pins	.78
5042 027 Steel pins	.78
5113 Wide Radius Curve Bulk	1.14
5149 Remote Uncoupling track	5.70

SWITCHES

5021 Manual Switch, Left	10.50
5022 Manual Switch, Right	10.50
5027 Pair Manual Switches	20.70
5121 Remote Switch, Left	16.20
5122 Remote Switch, Right	16.20
5125 Pair Remote Switches	31.80

TRANSFORMERS AC/DC CONVERTER

4060 AC/DC Transformer	20.40
4090 Power Master —AC	47.88
4651 Train Master — AC	20.40
5900 AC/DC Converter	5.88

"O" GAUGE TRACK

5132 Remote Switch, Right	34.74
5133 Remote Switch, Left	34.74
5500 Straight Track	1.06
5501 Curved Track	1.06
5530 Remote Uncoupling Track	11.10
5540 90° Crossover	6.90
5543 Insulator Pins	.84
5551 Steel Pins	.84
5572 Wide Radius Curved Track	1.74

NEW HO EQUIPMENT

MANUTUA RTR LOCOMOTIVES

301 Booster 0-4-0.	17.28
302 Little Six 0-6-0.	19.44
303 Shifter 0-4-0.	21.07
304 Big Six 0-6-0.	23.76
305 Pony 0-4-0.	25.92
306 Prairie 2-6-2.	27.00
307 General 4-4-0.	30.24
308 Dixie Belle 4-6-0.	28.08
309 1890 Rogers 4-6-0.	28.08
310 1880 12-Wheeler 4-8-0.	30.24
311 Pacific 4-6-2.	33.48
312 Mikado 2-8-2.	36.64
313 Mogul 2-6-0.	27.00
314 USRA Alco 0-8-0.	29.71
315 Consolidation 2-8-0.	32.40
316 Hudson 4-6-4.	35.11
317 Berkshire 2-8-4.	37.80
318 Decapod 2-10-0.	37.80

MANUTUA

RTR Mark II w/Vanderbilt Tender

319 Consolidation 2-8-0	44.28
320 Pacific 4-6-0	45.36
321 Mikado 2-8-2	48.60
322 Camelback 2-8-2	40.51
323 Pacific Camelback 4-6-2	40.51
324 Articulated Logger 2-6-6-2 (Sept. Del.) (New item)	51.31

MANUTUA LOCOMOTIVE KITS

501 Booster 0-4-0.	15.12
502 Little Six 0-6-0.	17.28
503 Shifter 0-4-0.	19.44
504 Big Six 0-6-0.	21.07
505 Pony 0-4-0.	21.07
506 Prairie 2-6-2.	24.31
507 General 4-4-0.	25.92
509 1890 Rogers 4-6-0.	25.39
510 1880 12-Wheeler 4-8-0.	27.00
511 Pacific 4-6-2.	28.61
512 Mikado 2-8-2.	29.16
513 Mogul 2-6-0.	25.39
514 USRA Alco 0-8-0.	27.00
515 Consolidation 2-8-0.	28.08
516 Hudson 4-6-4.	29.16
517 Berkshire 2-8-4.	31.32
518 Decapod 2-10-0.	32.40

Mark II Super Detailed Kits

519 Consolidation 2-8-0.	34.56
520 Pacific 4-6-2.	37.27
521 Mikado 2-8-2.	39.96
522 Camelback 2-8-2.	34.56
523 Pacific Camelback 4-6-2.	34.51
524 Articulated Logger 2-6-6-2 (Sept. Del.) (New item)	42.12

Retro Fit Kits

809 Smoke-N-Sound of Steam (Sept. Del.) (New item)	10.27
810 MG 81 Motor w/Gear Box (Sept. Del.) (New item)	15.12

RTR DIESEL LOCOS

401 Plymouth Diesel	9.72
402 F7 Diesel	11.88
406 GP20 Diesel	12.96
407 Davenport Diesel	9.72
712 RTR Vanderbilt Tender	5.40
713 RTR Long Haul Tender (Undec. Only)	5.40

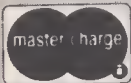
MANTUA VINTAGE CARS RTR

717 1860 Passenger Car.	\$2.71
718 1860 Combine Car	2.71
719 1890 Passenger Car.	2.71
720 1890 Combine Car	2.71
721 1860 Box Car	2.71
722 1860 Horse Car.	2.71
723 1860 Water Car	2.71
724 1860 Log Car	2.71
725 Old Time Caboose	2.71
714 Spirit of America Passenger Car	2.71
715 Spirit of America Combine Car	2.71

All of the above items are NEW.

OLD TIME CAR KITS

801 1860 Passenger Car.	\$2.16
802 1860 Combine Car	2.16
803 1890 Passenger Car.	2.16
804 1890 Combine Car	2.16
805 1860 Box Car	2.16
806 1860 Horse Car.	2.16
807 1860 Water Car	2.16
808 1860 Platform Car.	2.16



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MANTUA	
Streamlined Aluminum	
Passenger Car Kits (Undecorated)	
201 Baggage	9.18
202 Combine	9.18
203 Coach	9.18
204 Diner	9.18
205 Room Car	9.18
206 Observation	9.72

Streamlined Aluminum	
Passenger Cars RTR (Decorated)	
221 Baggage Car	11.35
222 Combine Car	11.35
223 Coach Car	11.35
224 Diner Car	11.35
225 Room Car	11.35
226 Observation Car	13.51

MANTUA "TRAIN PAK"	
No track nor power pack	
5000 Dixie Belle Passenger Train D&RWG	
Dixie Belle 4-60 w/1-1890, Comb.	
and 3 1890 Pass.	\$38.90
5001 Same as above Penna.	
5002 Same as above Milw.	38.90
5003 Rogers Passenger Train	
Spirit of America 3 1890 Pass.	38.90
5004 Same as above AT&SF.	38.90
5005 Mogul Passenger Train, Mogul 2-6-0 w/1 1890	
Comb. & B&O 3-1890 Passenger Cars	37.80

AHM	
5012 Powered GP18	7.35
5015 Powered Alco C424	8.00
5016 Powered SW1 w/Brakeman	9.35
5024 Powered FMA	6.70
5074 0-4-0 Shifter	14.70
(Road names on the above, our choice)	
5087 Heavy Pacific 4-6-2 (Deluxe)	66.69
(Erie, B&O)	
6301 Heavy Weight Pullman (Deluxe)	
(B&O, PRR, UP, Southern)	16.00
6302 Heavy Weight Observation	16.00
(Deluxe) (B&O Southern)	16.00
6303 Heavy Weight Com. (Deluxe) (B&O)	16.00
6304 Heavy Weight Diner (Deluxe)	
(B&O)	16.00
6305 Heavy Weight Coach (Deluxe)	
(UP, B&O, PRR)	16.00

50124 GP18 Dummy	1.13
50144 SW1 Dummy (1C)	1.13
50244 FM A	1.13
50405 BL2 Dummy	1.13
51314 Alco RS2 Dummy	1.13
53014 Brill Trolley Dummy	1.13
70244 FM B Dummy	1.13

WORKING ON THE RAILROAD	
5014-01 SW1 switcher	9.99
5040-01 BL2 Diesel	6.99
5153 GE 35 Ton Diesel	6.99
80-81 SD40 w/Free Caboose	19.79
50245-05 FM Diesel w/Dummy	11.79
5301-01 Brill Trolley	8.99
80-83 Passenger Car Asst.	4.99
81-36 Frt. Car Asst.	1.79
5650 Lighted Oper. Xing Gate	6.99
5737 Interlocking Tower	3.99
5737 Lastop Funeral Home	5.99
5821 Signal Tower	2.99
5834 Rooming House	4.99
5836 Water Tower	2.99
5838 Church	4.99
5839 Machine Shop	2.99
5885 Aunt Millie's House	4.59

STARTER ASSORTMENT	
(Items listed below available in September)	
5011-01 Center Cab Diesel	8.60
16111 SW1 w/Free Caboose (ATSF)	10.90
16112 SW1 w/Free Caboose (Southern)	10.90
16602 FM w/Dummy (ATSF)	12.04
16251 GP18 w/Free Caboose (Chessie)	10.90
16252 GP18 w/Free Caboose (STSF)	10.90
16701 FP45 w/Dummy (Amtrak)	17.20

16703 FP45 w/Dummy (UP)	17.20
16952 Brill Trolley w/Dummy United	10.35
15300 Snap Eze Building	1.75
11013 Operating Mighty Mover Crane	7.49

PEMCO	
3200 0-4-0 Tank	9.82
3201 Mogul 2-6-0	25.25
3202 Mountain 40802	42.09
3304 GG1 Red or Green	25.25
3300 F9 Diesel	9.76
3301 F40 PH Diesel	12.35
3302 Alco 430 Diesel	13.10
3303 SD35 Diesel	16.06

PEMCO OPERATING ACCESSORIES	
3802 Crossing Gate	4.83
3803 Revolving Beacon	6.00
3804 Conveyor	4.83
3805 Gantry Crane	6.00
3550 Crane car w/boom tender	6.00
3551 Coal Dump	6.00
3552 Log Dump	6.00

MANTUA Commemorative Box Cars

711-2 Penn.	2.71	711-4 Ga.	2.71
711-3 N.J.	2.71	711-10 Va.	2.71
711-5 Conn.	2.71	711-15 Ky.	2.71
711-6 Mass.	2.71	711-18 La.	2.71
711-7 Md.	2.71	711-22 Ala.	2.71
711-11 N.Y.	2.71	711-27 Fla.	2.71
711-17 Ohio	2.71	711-4 Mo.	2.71
711-19 Ind.	2.71	711-29 Iowa	2.71
711-21 Ill.	2.71	711-35 Kansas	2.71
711-26 Mich.	2.71	711-37 Neb.	2.71
711-30 Wisc.	2.71	711-38 Col.	2.71
711-32 Minn.	2.71	711-46 Okla.	2.71
711-28 Tex.	2.71	711-8 So. Car.	2.71
711-31 Cal.	2.71	711-12 No. Car.	2.71
711-33 Ore.	2.71	711-16 Tenn.	2.71
711-36 Nev.	2.71	711-20 Miss.	2.71
711-42 Wash.	2.71	711-25 Ark.	2.71
711-48 Ariz.	2.71	711-47 N. Mex.	2.71

The above items are in stock at this time

711-1 Del.	2.71	711-14 Vi.	2.71
711-9 N.H.	2.71	711-23 Me.	2.71
711-13 R.I.	2.71	711-35 W.Va.	2.71

The above items will be available in September

711-39 N. Dak.	2.71	711-44 Wyo.	2.71
711-40 S. Dak.	2.71	711-45 Utah	2.71
711-41 Mont.	2.71	711-49 Alaska	2.71
711-43 Idaho	2.71	711-50 Hawaii	2.71

The above items will be available in October

LIFE LIKE ACCESSORIES	
1231 Working Semaphore	\$2.78
1233 Railroad Crossing	2.78
1209 Spot lights	1.97
1215 Billboards (HO)	1.97
1504 Expressway Light	1.97
1506 Highway light	1.97
1507 Fluorescent Light	1.97
1117 American Cars	1.47
1119 City People	1.47
1120 American Vans	1.47
1123 People Standing	1.47
1124 People Sitting	1.47
1126 Station Accessories	1.47

Buildings	
1337 Mt. Vernon Mfg. Co.	3.55
1339 Belvedere Downtown Hotel	3.55
1346 Hank's House	1.78
1350 Good Shepherd Church	1.78
1351 Al's General Store	1.78
1356 7-11 Convenience Store	2.53
1359 Freezie Ice Cream Drive-In	2.53
1381 Equitable Trust	2.53
1382 Woodlawn Police Station	2.53
1390 Hampden Fire Engine House #48	2.53
1394 Kentucky Fried Chicken	2.53
1374 Build-A-Scene Camp Ground	3.55
1375 Build-A-Scene Const. Site	3.55
1376 Build-A-Scene Fruit Stand	3.55

1377 Build-A-Scene Moped Dealer	3.55
1378 Build-A-Scene City Square	3.55
1379 Build-A-Scene Veg. Garden	3.55

LIFE LIKE ACCESSORIES	
1155 Meadow Grass 50 x 99	\$3.29
1156 Grass 50 x 99	2.79
1159 Grass 50 x 99	2.79
1162 Grass 50 x 40	1.27
1163 Meadow Grass 50 x 40	1.91
1001/1024 Trees	1.68
1052/1053 Super Giant Trees	3.04
1324/1329 Mini Trees	1.68
1064/1065 Large Lichen	3.04
1101/1103 Scenic Stone	.66
1104/1106 Ballast Coal Gravel	.66
1107 Grass	.90
1108 Grass Economy Size	1.40
1109 Earth	.90
1111 Earth Economy Size	1.40
1401 Track Cleaner	1.20
1402 Smoke	1.20
1403 Landscaping Cement	1.20
1071 Ground Cover fine, lt. green	.59
1072 Ground Cover fine, med. green	.59
1073 Ground Cover fine, lt. brown	.59
1074 Ground Cover fine, dk. brown	.59
1075 Ground Cover med., md. green	.59
1076 Ground Cover med., med. green	.59
1810 Natural Lichen	.59
1811 Lichen mixed forest colors	.59
1821 Ballast Fine, lt. gray	.59
1822 Ballast Fine, dk. gray	.59
1823 Coal (Egg 2" 5")	.59

ABOVE ARE NEW ITEMS SWITCHES

8604 RH Remote Switch	3.30
8605 LH Remote Switch	3.30
8606 RH Manual Switch	2.53
8607 LH Manual Switch	2.53
8612 Remote Control Switch	
Machine	1.15
8613 Remote Control Switch	.55
1453 Trouble Shooter	.89
Atlas 18" Pad. Track Bulk	.18
Atlas 9" Straight Track Bulk	.18
11012 Oper. Thunder Mt. Logging Co.	7.49
11010 Operating Freight Carrier	1.75
11014 Operating Ltd. Xing Gate	4.09
11015 Operating Box Car Unloader	5.74
11016 Operating Pipe Unloader	5.74
11017 Operating Trailer Loading Term.	6.88
11100 Action Car Ass.	4.09
11201 Operating Log Car w/Crane Car	5.20
11011 Operating Log Dump Car w/Lited	
Loading/Unloading Station	6.35
15900 Trainscape Asst.	1.75
18011 R.C. LH Switch	2.99
18012 R/C RH Switch	2.99
18022 9" Straight Track (4 to a card)	1.05
18023 18" Curved Track (4 to a card)	1.05
18032 Lighted Bumpers (2 to a card)	1.75
18041 3' Flex (3 to a card)	2.20
18031 Curved Term. Railer w/1 pc.	
18" Rad. Curve	1.05

NOVEMBER LOCO SALE	
(Merchandise listed below not avail. until Nov.)	
5086-02 F-19 Pacific Loco 4-6-2	\$121.52
5061-06 RF&P Berkshire 2-8-4	121.53
5089-09 GN Mikado 2-8-2	121.53
5092-02 N & W Mallet	168.80
5093-03 AT & SF Mallet	168.80
5098-02 UP FEF-3 Gray 4-8-4	151.92
5112-04 UP Challenger 4-6-4 Gray	189.10
511903 UP Big Boy 4-8-8-4	189.10

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MINIFLASHERS

These tiny flashers are perfect for use on the front of your Diesels and the red flashers on the rear-end cars. Also use them for dome lights, warning beacons and many other uses. Send SSAE for free illustrated brochure.

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A TRUE SIMULTANEOUS INDEPENDENT TRAIN CONTROL SYSTEM

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Aurora, IL. Info: Ken Carlson, 312/469-0363.

Special events

MIDDLETOWN, NY. Oct. 24: Annual Fall Bus Tour and Banquet sponsored the O&W RHS. Tour will cover the right-of-way of the Monticello, Port Jervis and Kingston Branches. Banquet. Ticket and price info: O&WRHS, P.O. Box 7138, Middletown, NY 10940; or Peter D. Barton, Publicity Chairman, O&WRHS, P.O. Box 686, Poughkeepsie, NY 12602.

DALLAS, TX: Nov. 14: "O" Scale Regional Meet at the Ramada Inn, 120 West Airport Freeway, Irving, TX, 75062. Info: H.L. McConnell, P.O. Box 95, Elmer, OK 73539, 405/687-4372.

HARPERS FERRY, WV. Oct. 9-12: 1981 B&O Railroad Historical Society Annual Conference at the Cliffside Motor Inn for members & guests. Tours, historical papers, photo displays, railroadiana, banquet. \$10 members. Info: B&ORHS, P.O. Box 13578, Baltimore, MD.

OTTAWA, ONTARIO, CANADA. Oct. 17-18: RAILFAIR 81, at Algonquin College, Woodroffe Campus, jointly sponsored by the Ottawa Valley Associated Railroaders and The British Railway Modellers of North America. Featuring operating layouts, displays, railroad movies and dealers. Adults \$1.50, children 50¢. Family max. \$3. Sat: 1:30-6. Sun: 10AM-5PM. Info: D.H. Venables, 9 Ariel Ct., Nepean, Ontario, Canada, K2H 8J1.

NMRA meets

ENGLEWOOD, CO. Nov. 7-8: South Suburban Division/RMR Model Rail Roundup, at the Holiday Inn at I-25 Southeast & 9009 E. Arapahoe Rd. Donation: Adult \$1 per day, 50¢ under 12, \$2.50 family. Operating displays, swap, movies, clinics, etc. Info: Bruce W. Burbank, Publicity Committee, 6666 S. Kit Carson St., Littleton, CO 80121. (303)794-5776 home, (303)571-7416 business.

LITTLETON, CO. Nov. 7 & 8: South Suburban Division Model Rail Roundup, Holiday Inn at I-25 and Arapahoe Rd., 10AM to 5PM. \$1 adults, 50¢ under 12. Flea market, clinics, modular railroad. Info: Klass Gunnink, 4384 E. Peakview Circle, Littleton, CO 80121, 303/770-0658.

TORRINGTON, CT. No. 8: Nutmeg Division/NER Annual Fall Show, Knights of Columbus Hall, Torrington, Ct., 11AM to 5PM. Info: Dennis A. Fustini, 18 Pennywise Lane, Ledyard, CT 06339, 203/536-1828.

CORAL SPRINGS, FL. Nov. 6, 7 & 8: Railfun '81, NMRA Sunshine Region Fall Convention at the Holiday Inn. Clinics, 12 layouts plus live steam, ladies program and banquet. Info:

Stew Marshall, 3703 NW 8th Terrace, Coral Springs, FL 33065.

FT. LAUDERDALE, FL. Nov. 6-8: Sunshine Region Railfun '81 Fall Convention. Eleven home layouts, clinics, displays, contests, auction, and raffle program. Info: Stew Marshall, Chrm., 3703 NW 8th Terrace, Coral Springs, FL 33065.

AUGUSTA, GA. No. 14 & 15: Carolina Div./SER and the Georgia-Carolina Railroad Modelers show and meet. NMRA contests 14th only. Sat: 10-9; Sun: 1-6. Augusta Mall, I-520 East, Wrightsboro Road exit. Free. Info: SSAE to: Jim Scofield, P.O. Box 5793, Augusta, GA 30906; 404/798-1984.

GLENN ELLYN, IL. Oct. 4: Du Page Division meet at the Holiday Inn of Glen Ellyn, 1250 Roosevelt Rd., 1:30 PM. Open to all — free admission. Info: Scott Wilseck, 312/654-4832 or Bob McMahon 312/354-3340.

GLENN ELLYN, IL. Nov. 1: Du Page Division Meet at the Holiday Inn of Glen Ellyn, 1250 Roosevelt Rd., 1:30 PM. Open to all — free admission. Info: Scott Wilseck, 312/654-4832 or Bob McMahon 312/354-3340.

GOLF, IL. Sept. 26: North Shore Western Division Meet at Diederich Park Field House, enter Overlook Drive off Waukegan Rd. 1-4:30 PM. \$1. Info: John Hoker, 724-1474.

ROSSVILLE, IL. Sept. 20: SID/MWR and Danville Jct. Chapter/NRHS Joint meet at the L&N depot, E. Benton St., 2-5PM Reg: 50¢ Info: Jesse Bennett, 213 E. McKibben, Rossville, IL 60963; 217/748-6615.

PRINCETON, IN. Oct. 4: Central Indiana Division Meet at the Knights of Columbus Hall, 313 W. Broadway 1PM-5PM; \$1. Info: Fred Theiss, 101 Cambridge Place, Princeton, IN 47670; 812/386-1286.

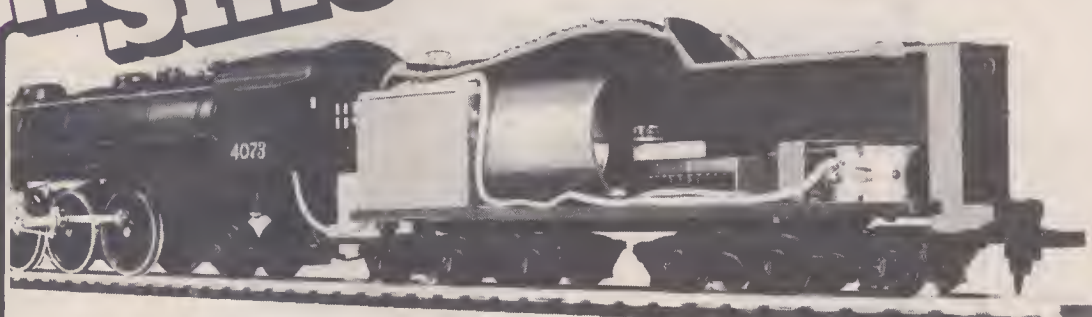
DES MOINES, IA. Oct. 24: Des Moines Area, Mid-Continent Region, Model Railroad Meet, Howard Johnson's Motel, I-80-35 and Merle Hay Road, 9-5 PM. \$4 advance, \$5 at door. Info: Warren E. Johnson, 2801 Bennett Ave., Des Moines, Iowa 50310; 515/255-5890 after 5 PM.

ALPENA, MI. Sept. 30: Northern Div./NCR meet at Resser Museum, Johnson St. at 1PM. Free. Clinics, caboose contest, layout tours. Info: Neil Fulkerson, 1322 Lakeview Dr., Alpena, MI 49707; 517/354-4330.

MIDLAND, MI. Nov. 8: NCR Northern Division Open House and Flea Market, 11AM to 4PM, at Great Hall, Valley Plaza, 2960 W. Midland Rd. \$1 per person, \$2 per family. Info: Wilson Hunt, 4200 Washington, Midland, MI 48640; 517/835-1532.

NO. CONWAY, NH. Oct. 23, 24 & 25: Northeast Region Fall Convention (35th Anniversary) at the Fox Ridge Resort. Info:

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Paul E. Weld, Box 254, No. Conway, NH 03860; 603/356-5033 after 5 PM.

FLEMINGTON, NJ. Nov. 14: Garden State Division/NER layout tour of Flemington-Hunterdon County area, 9 AM. Reg. \$2. Info: Don Davis, 93 Leghorn Ave., Bridgewater, NJ 08638, or call at home: 201/752-3246 or office: 609/292-2111 (Michael Tomaszewicz).

MILLVILLE, NJ. Sept. 19: The New Jersey Division of MER Fall Meet will be held in the Heritage Bank community room from noon to 4 PM. Clinics, coffee, swap tables. All are welcome—\$2 adults, children free. Info: Ron Baile, 920 Somerset St., Gloucester City, NJ 08030; 609/456-6877.

MASSAPEQUA PARK, NY. Sept. 26: Sunrise Trail Division/NER Fall Meet, St. David's Church, Clark Blvd., 10AM-5PM. Contact: Albert Waltien, 38-23 212th Street, Bayside, NY 11360. (212)423-6036.

CINCINNATI, OH. No. 21 & 22: Div. #7, MCR 14th Annual Fall Railroad Expo at Scarlet Oaks Vocational School, 3254 E. Kemper Rd. (Sharonville). Sat: 10-9 PM; Sun: noon-5PM. Adm: \$1. indiv., \$3 family. All displayers must request space no later than Oct. 30. Info: George Varney, 10842 Surfwood Lane, Cincinnati, OH 45241, or call 513/769-6241 after 6:30, 984-5515 daytime.

EUGENE-SPRINGFIELD, OR. Oct. 10: 1st Div/PNR Fall Mini-meet at the International Dunes Motel, I-5 and Beltline Rd. Full fare with banquet, \$12. Beg. at 9AM. Info: Jim Crueger, 6702 McLain-Libby, Coos Bay, OR 97420. (503)888-3412.

PITTSBURGH, PA. Oct. 2, 3 & 4: Joint regional convention of Mid-Central and Mid Eastern Regions at the William Penn Hotel and Pittsburgh Convention Center. 10:00AM Friday until 6:00PM Sunday. Reg: \$30.00 before Sep. 1, \$33.00 thereafter (including banquet). Info: K.L. Hojnacki, Registrar, P.O. Box 794, Pittsburgh, PA 15230; 412/521-6447.

MEMPHIS, TN. Oct. 17: Bluff City Div/SER Meet at Bunlyn Presbyterian Church, Prescott at Southern Ave., 10-3:30PM. Full program. Reg. \$1.50. Info: Jack Goldschmid, 4813 Lynbar, Memphis, TN 38117; 901/683-0998.

WILLIAMSBURG, VA. Sept. 27: Tidewater Division/M.E.R. meet at 814 Capital Landing Rd., Holiday Inn East, 10AM-4PM. \$1. Info: J.D. Spanagel, 2441 Sterling Pt., Dr., Portsmouth, VA 23703. (804)484-5040.

MADISON, WI. Oct. 4: South Central Wisconsin Division of the NMRA Meet starts at 1 PM, Regency Room, Rennebohm Drugs Office & Warehouse, 2300 Badger Lane. Adm. \$1, students 50¢, first meet free. Info: Radleigh Becker, 444 Hilltop Drive, Madison, WI 53711; 608/231-1817.

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9369	Sinclair Sing Dome Tank diecast trks	13.99
9370	Gondola diecast trks	10.99
9372	Seaboard Bay Window Cab Metal trks	19.99
9412	Richmond, Frdrksbg & Ptmc Bx Cr	12.95
9417	CP Rail Box Car (Limited Edition)	19.99
9419	UP Box-G-Series II	14.99
9536	Blue Comet Baggage Car	12.99
9537	Blue Comet Combo Bodies & Top Roof	4.99
9538	Blue Comet Passenger Car	12.99
9539	Blue Comet Passenger Car	12.99
9540	Blue Comet Observation Car	12.99
9551	W & A General Baggage	9.99
9620	NHL Wales Conference	7.99
9621	NHL Campbell Conference	7.99
9622	NBA Western Conference	7.99
9623	NBA Eastern Conference	7.99
9624	National Baseball League	7.99
9625	American Baseball League	7.99
9734	BA Box Car diecast trks	24.99
9812	Delaware & Hudson Box Car	6.99
9852	Miller Reefer	6.99
9882	Old Dutch Cleanser Reefer	6.99
9882	Reefer diecast trks	13.99
1053	James Gang Set	59.99
1960	Midnight Flyer Set	39.99
1963	Black River Freight Set	49.99
Original Lionel	Lapel Pin	3.95
Original Lionel	Bell Buckle (Solid Brass)	14.95
9784	Santa Fe Box Car	8.99
9300	AMER FLYER Burl N Gondola	7.99
9400	AMER FLYER Chessie Caboose	7.99
9701	AMER FLYER Rock Box Car	7.99

SETS															
1662	Black River Freight	69.95	8571	Frisco U368 Powered	79.95	9853	Cracker Jack Billboard Reefer (White)	12.95	9724	Missouri Pacific Box Car	60.00				
1660	Work'n' Railroad—Timberline	29.95	8572	Frisco U368 Dummy	39.95	9853	Cracker Jack Billboard Reefer (Carmel)	29.00	9725	M-K-T Cattle Car	25.00				
1664	Santa Fe Double Diesel	99.95	8576	Penn Central GP-7	79.95	9854	Baby Ruth Billboard Reefer	12.95	9729	CP Rail Box Car	35.00				
1280	Kickapoo Valley & Northern Set	49.95	8650	Burlington U368 Powered	79.95	9856	Old Milwaukee Beer Billboard Reefer	12.95	9730	CP Rail Box Car (Black Letters)	25.00				
1287	Pioneer Dockside Switcher Set	89.95	8651	Burlington U368 Dummy	79.95	9858	Butterfinger Billboard Reefer	12.95	9730	CP Rail Box Car (White Letters)	25.00				
1360	Canadian Pacific Service Station Set	475.00	8654	Boston & Maine GP-9 Powered	89.95	9859	Pabst Beer Billboard Reefer	12.95	9731	Milwaukee Box Car	15.00				
1380	Industrial Switcher Set—Only DC made	49.95	8655	Boston & Maine GP-9 Dummy	69.95	9860	Gold Medal Billboard Reefer	12.95	9735	Grand Trunk Box Car	15.00				
1387	Milwaukee Special Passenger Set	195.00	8656	Canadian National "A" Powered		9862	Hamm's Beer Billboard Reefer	12.95	9737	Central Vermont Box Car	15.00				
1450	Rio Grande Service Station Set	195.00	8657	Canadian National "B" Dummy	225.00	9863	REA Reefer	29.95	9739	Denver & Rio Grande Box Car	15.00				
1463	Cola Cola Set—Limited Edition	99.95	8658	Canadian National "A" Dummy		9866	Cool's Beer Billboard Reefer	12.95	9740	Chessie System Box Car	15.00				
1487	Broadway Limited Passenger Set	225.00	8659	Virginian Rectifier	125.00	9867	Hershey's Chocolate Billboard Reefer	12.95	9742	Minn. & St. Louis Box Car (Coup. Car)	35.00				
1577	The Liberty Special Set (Ltd. Ed.)	125.00	8660	Canadian Pacific Rail Switcher	79.95	9872	Pacific Fruit Express Reefer	12.95	9747	Chessie Double Door Box Car	25.00				
1579	Milwaukee Road Service Station Set	195.00	8665	Bng'r & Aroostook GP-9 Dsl & Cabse	125.00	9873	Ralston Purina Billboard Reefer	12.95	9748	CP Rail Box Car	20.00				
1584	Norfolk & Western Spirit of America	275.00	8669	Illinois Central U368 Powered	79.95	9874	Miller Lite Billboard Reefer	12.95	9749	Penn Central Box Car	20.00				
1585	75th Anniversary of Lionel Set	275.00	8750	The Rock GP-7 Powered	79.95	9875	A&P Billboard Reefer	12.95	9750	O. T. & I Box Car	20.00				
1587	Capitol Limited B&O Passenger Set	275.00	8751	The Rock GP-7 Dummy	49.95	9880	Chessie Hi-Cube Box Car	29.95	9751	Frisco Box Car	20.00				
1663	Amtrak Passenger Set	175.00	8754	New Haven Rectifier	89.95	9601	Illinois Central Hi-Cube Box Car	19.95	9752	Louisville & Nashville Box Car	20.00				
8667	Amtrak Alco "B" Dummy	49.95	8755	Santa Fe U368 Powered	79.95	9602	Santa Fe Hi-Cube Box Car	19.95	9753	Maine Central Box Car	20.00				
1664	Illinois Central Set w/O'rawbridge	225.95	8756	Santa Fe U368 Dummy	49.95	9603	Penn Central Hi-Cube Box Car	29.95	9754	New York Central Pacemaker Box Car	20.00				
1762	Wabash Cannonball Set w/Smkg Eng.	89.95	8757	Conrail GP-9	79.95	9604	Norfolk & Western Hi-Cube Box Car	19.95	9755	Union Pacific Box Car	30.00				
1766	Budd Service Station Set	225.00	8758	Southern GP-7 Dummy	34.95	9605	New Haven Hi-Cube Box Car	29.95	9757	Central of Georgia Box Car	35.00				
1672	Northern Pacific Service Station Set	295.00	8759	Southern GP-7 Powered	69.95	9606	Union Pacific Hi-Cube Box Car	19.95	9758	Alaska Railroad Box Car	25.00				
9775	MS&L Box Car w/Diecast Sprung Trks	50.00	8760	Erie-Lackawanna GP-9 Powered	89.95	9607	Southern Pacific Hi-Cube Box Car	19.95	9763	Denver & Rio Grande Cattle Car	25.00				
9776	S&L Box Car w/Diecast Sprung Trks	65.00	8761	Erie-Lackawanna GP-9 Dummy	59.95	9608	Burlington Northern Hi-Cube Box Car	19.95	9767	Grand Trunk Double Door Box Car	15.00				
9267	Alco Hopper w/Diecast Sprung Trks	50.00	8762	Grand Trunk Switcher (3 position)	79.95	9280	Railway Horse Transport Car	75.00	9768	Operating Post Office Car	15.00				
9177	N. P. Bay Wind. Cabse w/Diecast Trks	50.00	8763	Great Northern Electric	125.00	9301	Operating Post Office Car	14.95	9769	Boston & Maine Box Car	15.00				
8668	Northern Pacific GP-9 dummy	125.00	8764	Norfolk & Western GP-9 Powered	79.95	9302	Operating Searchlight Car	12.95	9769	Bessemer & Lake Erie Box Car	15.00				
1967	Milw. Rd. Ltd. Set less track & trans	250.00	8775	Lehigh Valley GP-9 Powered	89.95	9303	Union Pacific								

1410	Banjo Signal	15.95	8764	Budd Passenger Car - Powered	89.95	9823	Santa Fe Flat Car w/Grates	85.00		
1415	Automatic Gateman	21.95	8765	Budd Baggage & Mail Car	44.95	9824	New York Central Gondola	35.00		
1421	Operating Semaphore	15.95	8468	Baltimore & Ohio F-3 "B" Dummy	75.00	9825	Schaefer Reefer	75.00	9501	Milwaukee Rd. Pass. Car "Aberdeen"
1452	Automatic Crossing Gate	12.95	9459	Canadian Pacific F-3 "B" Dummy	75.00	9826	New York Central Box Car	35.00	9504	Milwaukee Rd. Pass. Car "Tacoma"
1454	Automatic Highway Flasher	14.95	8474	Denver & Rio Grande F-3 "B" Dummy	75.00				9505	Milwaukee Rd. Pass. Car "Seattle"
1462	Automatic Crossing Gate & Signal	19.95	8475	Amtrak F-3 "B" Dummy	75.00				9506	Milwaukee Rd. Combination Car
1463	Block Target Signal	19.95	8575	Milwaukee F-3 "B" Dummy	75.00				9521	Milwaukee Rd. Campaign Car
1470	Street Lights (Package of 3)	6.95	8661	Southern F-3 "B" Dummy	59.95	5021	"027" Left Manual Switch	6.99	9527	Milwaukee Rd. Baggage Car
1471	Gooseneck Street Lamps	7.95	8777	Santa Fe F-3 "B" Dummy	59.95	5022	"027" Right Manual Switch	6.99	9516	B&D Pass. Car "Mountain Top"
1475	Sandy Andy	49.95	8864	New Haven F-3 B Dummy	59.95	5121	"027" Pair of Manual Switches	13.50	9516	B&D Pass. Car "Marg. Corbin"
1480	Road Signals	1.99	8059	Pennsy F-3 B Green Dummy	175.00	5122	"027" Left Remote Switch	15.95	9525	B&D Pass. Car "Emerald Brook"
1481	Telephone Poles	1.99	8060	Pennsy F-3 B Tucson Dummy	99.95	5125	"027" Right Remote Switch	15.95	9523	Baltimore & Ohio Baggage Car
2214	Girder Bridge	3.95	8062	Burlington F-3 B Chrome	59.95	5020	"027" Pair of Remote Switches	29.95	9529	Baltimore & Ohio Campaign Car
2256	Station Platform	9.95	8952/53	Penn Green (Pow. + Dummy)	325.00	5149	"027" 90 deg. Crosstrack	4.95	9510	Pennsylvania Combination Car
							"027" B/C Operation Track	6.99		

2301	Operating Igniters (Package of 2)			2927	Maintenance & Lubrication Kit	3.95	9515	Pennsy Pass Car "Wash. Circle"	39.95
2302	Gantry Crane Sawmill	49.95	B209	Dockside Switcher 0-4-0 (Fwd & Rev)	49.95		9522	Pennsylvania Baggage Car	85.00
2303	Openflaming Crane	49.95	B304	Diecast Smoking Engine w/Sound of Steam Tender	99.95		952B	Pennsylvania Campaign Car	29.95
2313	Floodlight Tower	15.95	B506	Penn Diecast Steam Switcher	125.00				
2317	Drawbridge	29.95		C&O Hudson w/Tender	189.95				
2318	Lighted Watch Tower	19.95		N.Y.C. Hudson w/Tender, Whistle and Sound of Steam	189.95				
2710	Billboards (Package of 5)	2.00	6206	N.Y.C. Hudson w/Tender, Whistle and Sound of Steam	189.95				
2788	Coaling Station	49.95	8304	Rock Island (Diecast) w/Tender	99.95				
			8600	New York Central 4-6-4 w/Tender	225.00				

"O" GAUGE SWITCHES

NEW G.E. E60 LOCOMOTIVES BY WILLIAMS REPRO

Ocorated Cab & Hardware as issued . . . \$9.95
 Assembled with one GEEP motor . . . \$125.00
 Assembled with two GEEP motors . . . \$149.95

BOX CARS

7000 Penn. Grip Box Car . . . \$49.95

LIFE LIKE CLOSEOUTS

HD Trees per box . . . \$1.99

Lifelike trees: green shade trees, autumn trees, evergreen ferns, poplar trees, apple trees, orange trees, birch trees, your choice . . . per box 2.50

5132	Right Hand Remote Switch	32.95	7800	Pepsi Cola Soda Pop Box Car	19.95	Lifelike Lychen bushes	Reg. box	2.00
5133	Left Hand Remote Switch	32.95	7801	A&W Root Beer Soda Pop Box Car	14.95	Lifelike Lychen bushes	Large box	3.50

8022	Spirit of '76 U368	200.00	9041	Hefsyne Box Car	9.95	7810	Orange Crush Soda Pop Box Car	14.95	Lifelike scenic stones-red or black/gray	box	.75
8022	Ltd. Ed. Santa Fe Alco "A" Powered	49.95	9042	Auto-Lite Box Car	9.95	7811	Or. Pepper Soda Pop Box Car	14.95	Likeline Light-ups street lamps (set of 3)		3.00
8111	D7&1 Switcher	49.95	9051	Firestone Tank Car	9.95	9200	Illinois Box Car	20.00	HO Dper Switchman List 12.00	SALE	5.99
8252	Delaware & Hudson "A"	39.95	9110	Baltimore & Ohio Hopper (Black)	29.00	9201	Penn Central Box Car	60.00	F40 PH Diesel Engine		3.99
8523	Delaware & Hudson "B"	39.95	9111	Norfolk & Western Hopper (Tuscan)	19.95	9202	Santa Fe Box Car	60.00	25th Anniv Chrome Spec Box F40PH		19.99
8250	Santa Fe GP-9 Powered	79.95	9112	Morton Salt Covered Hopper	19.95	9203	Union Pacific Box Car	60.00	Operating Switchman		4.99
8255	Santa Fe GP-9 Dummy	39.95	9116	Omino Sugar Covered Hopper	29.95	9204	Northern Pacific Box Car	60.00			
8352	Santa Fe GP-20 (Rare)	79.95	9117	Alaska Railroad Covered Hopper	19.95	9205	Norfolk & Western Box Car	25.00			
8354	Erie Switcher	79.95	9121	Louisville & Nashville Flat w/Dozer	19.95	9206	Great Northern Box Car	25.00			
8361	Western Pacific "A"	49.95	9122	Northern Pacific Flat Car w/Vans	12.95	9207	Soo Line Box Car	25.00			
8362	Western Pacific "B"	39.95	9123	Chesapeake & Ohio Blue Auto Carrier	12.95	9208	Canadian Pacific Box Car	25.00			
8363/64	B&O F3 Pow'd + Dummy	Both 175.00	9126	Chesapeake & Ohio Yllw Auto Carrier	12.95	9210	Burlington Northern Box Car	25.00			
8353	Grand Trunk GP-7 Powered	79.95	9128	Pickle Car w/4 Vats	12.95	9210	Baltimore & Ohio Auto Box Car	40.00			
8356	Grand Trunk GP-7 Dummy	39.95	9132	Pineapple Car w/4 Vats	12.95	9211	Penn Central Box Car	25.00			
8371	Ltd. Ed. Santa Fe Alco "A" Powered	49.95	9134	Virginian Covered Hopper	29.95	9211	Northern Pacific Box Car	25.00			
8452	Erie "A" Powered	59.95	9135	Norfolk & Western Hopper (Dark Blue)	29.95	9215	Norfolk & Western Box Car	25.00			
8453	Erie "B" Dummy	39.95	9135	Norfolk & West. Cos. Hopper (Purple)	29.00	9230	Monon Box Car	25.00			
8454	Rio Grande GP-7 Powered	79.95	9145	Illinois Central Gulf Auto Carrier	19.95	9700	Southern Box Car	30.00			
8455	Rio Grande GP-7 Dummy	49.95	9146	Mogan David Wine w/4 Vats	12.95	9701	Baltimore & Ohio Auto Box Car	30.00			
8460	M-K-T Switcher	49.95	9148	Oupont Tank Car (3 Domes)	9.95	9702	Soo Line Box Car	30.00			
8464/65	Rio GF3 Pow. + Dummy	Both 175.00	9152	Shell Tank Car w/Black ends	19.95	9703	CP Rail Box Car	75.00			
8466/67	Amtrak F3 Pow. + Dummy	Both 175.00	9153	Chevron Tank Car	9.95	9704	Norfolk & Western Box Car	25.00			
8473	Coca Cola Switcher	49.95	9154	Bordens Tank Car (Chrome Plated)	19.95	9705	Denver, Rio Grande & Western Box Car	15.00			
8550	Jersey Central GP-9 Powered	79.95	9156	Mobilgas Tank Car (Chrome Plated)	19.95	9706	Chesapeake & Ohio Box Car	15.00			
8561	Jersey Central GP-9 Dummy	49.95	9260	Reynolds Aluminum Covered Hopper	19.95	9707	M-K-T-Cattle Car	15.00			
8551	Pennsylvania "Little Joe"	125.00	9261	Sun Maid Raisins Covered Hopper	19.95	9708	Post Office Mail Box Car	15.00			
8552	Southern Pacific (3 pos.) Alco, Powered "A"	250.00	9262	Ralston Purina Covered Hopper	39.95	9709	State of Maine Box Car	50.00			
8556	Chessee Switcher "B" Set of 3	125.00	9263	Penn Central Covered Hopper	29.95	9710	Rutland Box Car	25.00			
8558	Milwaukee Electric	125.00	9264	Illinois Central Covered Hopper	29.95	9711	Southern Box Car	25.00			
8470	Chessee U36B Powered	89.95	9265	Chessee Covered Hopper	29.95	9712	Baltimore & Ohio Double Door Box Car	45.00			
8560	Chessee U36B Dummy	59.95	9278	Life Savers Tank Car (Chrome)	14.95	9713	CP Rail Box Car	25.00			
8562	Missouri Pacific GP-20 Powered	89.95	9279	Magnolia Tank Car (3 Domes)	14.95	9714	Rio Grande Box Car	25.00			
8565	Missouri Pacific GP-20 Dummy	59.95	9281	Santa Fe Auto Carrier	9.95	9715	Chesapeake & Ohio Box Car	25.00			
8566/67	Southern F3 Pow. + Dummy	Both 275.00	9436	Great Northern Piggyback w/Trailers	9.95	9716	Penn Central Box Car	35.00			
8568	Preamble Express F3 Powered	79.95	9480	Lehigh Valley Quad Hopper	20.00	9717	Union Pacific Box Car	25.00			
8569	Soo Switcher	49.95	9851	Budweiser Billboard Reeler	29.95	9718	Canadian National Box Car	25.00			
				Schitz Billboard Reeler							

9801	Baltimore & Ohio Box Car	50.00	9786	Chicago & Northwestern Box Car	15.00
9802	Miller Reefer	25.00	9787	Jersey Central Box Car	15.00
9803	Johnson Box Car	25.00	9788	Lehigh Valley Box Car	15.00
9805	Grand Trunk Box Car	25.00	9400	Conrail Box Car	10.00
9806	Rock Island Box Car	75.00	9401	Great Northern Box Car	10.00
9807	Strohs Reefer	75.00	9402	Susquehanna Box Car	25.00
9808	Union Pacific Box Car	85.00	9403	Seaboard Coast Line Box Car	15.00
9809	Clark Reefer	35.00	9404	Nickel Plate Box Car	15.00
9820	Wabash Gondola	35.00	9405	Atahatche Industries Box Car	10.00
9821	Southern Pacific Gondola	35.00	9406	Denver, Rio Grande & West. Cookie Car	7.95
9822	Grand Trunk Gondola	35.00	9407	Union Pacific Stock Car	25.00
9823	Santa Fe Flat Car w/Crates	85.00			
9824	New York Central Gondola	35.00			
9825	Schafer Reefer	35.00	9501	Milwaukee Rd. Pass. Car "Aberdeen"	29.95
9826	New York Central Box Car	75.00	9504	Milwaukee Rd. Pass. Car "Tacoma"	29.95

5021	027"	Left Manual Switch	6.99	9527	Milwaukee Rd. Campaign Car	29.95
5022	027"	Right Manual Switch	6.99	9521	Milwaukee Rd. Baggage Car	85.00
5027	027"	Pair of Manual Switches	13.99	9516	B&D Pass. Car 'Mountain Top'	29.95
5121	027"	Left Remote Switch	15.95	9524	B&F. & Ohio Pass. Car 'Marg. Corbin'	29.95
5122	027"	Right Remote Switch	15.95	9523	B&D Pass. Car 'Emerald Brook'	29.95
5125	027"	Pair of Remote Switches	29.95	9525	Baltimore & Ohio Baggage Car	29.95
5020	027"	90 deg. Crosstrack	4.95	9529	Baltimore & Ohio Campaign Car	29.95
5149	027"	R/C Operating Track	6.95	9510	Pennsylvania Combination Car	29.95
027"		Straight or Curved Track	50/ea.	9513	Pennsylvania Pass. Car 'Penn. Sq.	39.95
2927		Maintenance & Lubrication Kit	3.95	9514	Pennsylvania Pass. Car 'Times Sq.	39.95

Decorated Cab & Hardware as issued	59.95	LIFE LIKE CLOSEOUTS	
Assembled with one GEEP motor	125.00	HD Trees per box	1.99
Assembled with two GEEP motors	149.95	Lifelike trees: green, shade trees, natural	

7800	Pepsi Cola Soda Pop Box Car	19.95	trees, birch trees, your choice	per box	2.50
7801	A&W Root Beer Soda Pop Box Car	14.95	Lifelike Lichen bushes	Reg. box	2.00
7802	Canada Dry Soda Pop Box Car	14.95	Lifelike Lichen bushes	Large box	3.50
7803	Vemor's Soda Pop Box Car	14.95	Lifelike coal		75
7810	Orange Crush Soda Pop Box Car	14.95	Lifelike gravel		75
7811	Or. Pepper Soda Pop Box Car	14.95	Lifelike scenic stones-red or black/ gray	box	75
9200	Illinois Box Car	20.00	Lifelike Light-ups street lamps (set of 3)		3.00
9201	Penn Central Box Car	60.00	HO Oper Switchman List 12.00 SALE		5.99
9202	Santa Fe Box Car	60.00	FT Powered Diesel Eng & Dummy A8A		13.99
9203	Union Pacific Box Car	60.00	F40 PH Diesel Engine		9.99
9204	Northern Pacific Box Car	60.00	25th Anniv Chrome Spec Box F40PH		19.99
9205	Norfolk & Western Box Car	25.00	Operating Switchman		4.99
9206	Great Northern Box Car	25.00			
9207	Soo Line Box Car	25.00			
9208	Canadian Pacific Box Car	25.00			
9209	Burlington Northern Box Car	25.00			
9210	Baltimore & Ohio Auto Box Car	40.00			
9211	Penn Central Box Car	25.00			
9212	Northern Pacific Box Car	25.00			
9215	Norfolk & Western Box Car	25.00			
9230	Monon Box Car	30.00			
9700	Southern Box Car	30.00			
9701	Baltimore & Ohio Auto Box Car	30.00			
9702	Soo Line Box Car	30.00			
9703	CP Rail Box Car	75.00			
9704	Norfolk & Western Box Car	25.00			
9705	Denver, Rio Grande & Western Box Car	15.00			
9706	Chesapeake & Ohio Box Car	15.00			
9707	M-K-T-Cattle Car	15.00			
9708	Post Office Mail Box Car	15.00			
9709	State of Maine Box Car	50.00			
9710	Rutland Box Car	25.00			
9711	Southern Box Car	25.00			
9712	Baltimore & Ohio Double Door Box Car	45.00			
9713	CP Rail Box Car	25.00			
9714	Rio Grande Box Car	25.00			
9715	Chesapeake & Ohio Box Car	25.00			
9716	Penn Central Box Car	35.00			
9717	Union Pacific Box Car	25.00			
9718	Canadian National Box Car	25.00			
9719	New Haven Double Door Box Car	40.00			
9723	Western Pacific Box Car	50.00			

HO BELOW WHOLESALE		
257	Tyco 0-6-0 Loco & Tend.	14.99
TYCD	Caboose or Old Time Reeters	.99
TYCD	ASST Freight & Box Cars	ea. .99
TYCD	Burl North 50" Box Car	ea. .99
TYCD	Triple Dome Coke Tanker	1.99
862	Coal Unloading Trestle w/Hopper	4.99
925	Remote Control Dre Dump	4.99
930	Remote Frt. Unloading Box Car	6.99
346	Operating Floodlight Car	4.99
901	Piggyback Flat Car w/2 Trailers, Truck	4.99
980	Pdr Crossing Gate	4.99
916	Operating Gravel Dump w/Nite Glow	4.99
922	Operating Gravel Conveyor	5.99
935	Cattle Car & Depot Set w/Truck, Cattle Trailer, Stockcar, Stockyard, & Depot.	4.99

TYCO BUILDING CLOSEOUTS		
Tyco Flatcar w/3 Tractors		1.99
7754	Howard Johnsons	2.99
7757	Exxon Station	2.99
7758	Truck Terminal	2.99
7759	3 Houses Under Const	2.99
7770	Barn & Silo	2.99
7773	Interferking Tower	2.99
7776	Auto Milling House	2.99
7777	Gantry Crane	2.99
7779	Ma's Place	2.99
7790	Hardware Store	2.99

HD Trees per box	1.99
Lifelike trees: green shade trees, autumn trees, evergreen trees, poplar trees, apple trees, orange trees, birch trees, your choice	per box 2.50
Lifelike Lichen bushes	Reg. box 2.50
Lifelike Lichen bushes	Large box 3.50
Lifelike coal	.75
Lifelike gravel	.75
Lifelike scenic stones-red or black/ gray	box .75
Lifelike Light-ups street lamps (set of 3)	3.00
HO Power Switchman List 12.00	SALE 5.99
F7 Dwyer Diesel Eng. & Pumping	48A

HY-LOE BULK WHOLESALE		
257	TYCO 0-6-0 Loco & Tend.	14.99
TYCD	Caboose or Old Time Reeters	.39
TYCD	Asst Freight & Box Cars	ea. .99
TYCD	Burl North 50' Box Car	ea. .99
TYCD	Triple Dome Coe Tanker	1.99
862	Coal Unloading Trestle w/Hopper	4.99
925	Remote Control Dze Dump	4.99
930	Remote Frt Unloading Box Car	6.99
946	Operating Floodlight Car	4.99
901	Piggyback Flat Car w/2 Trailers, Truck	4.99
980	Drr Crossing Gate	4.99
916	Operating Gravel Dump w/Nite Glow	4.99
922	Operating Gravel Conveyor	5.99
935	Cattle Car & Depot Set w/Truck, Cattle Trailer, Stockcar, Stockyard & Depot	4.99

Tyco Flatcar w/3 Tractors	1.99
7754 Howard Johnsons	2.99
7757 Exxon Station	2.99
7758 Truck Terminal	2.99
7759 3 Houses Under Const	2.99
7770 Barn & Silo	2.99
7773 Interlocking Tower	2.99
7776 Aunt Millies House	2.99
7777 Gantry Crane	2.99
7779 Ma's Place	2.99
7790 Hardware Store	2.99

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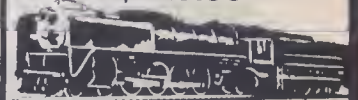
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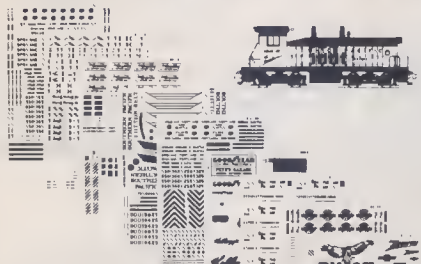
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NEENAH, WI. Oct. 31: Winnebago Division "Bare Bones" Fall Meet at the Boy's Brigade Bldg., Neenah, 8-5PM. \$2.49 for non-NMRA family, \$1.99 for NMRA family. Info: Jerry Nichols, 614 8th St., Waupaca, WI 54981; 715/258-7226.

PORTAGE LA PRAIRIE, MANITOBA, CANADA. Sept. 26: No. 1 Northern Division/TLR Meet, open to all, at Manitoba Inn, 9AM-10PM. \$12 reg. includes banquet. Info: Hilt Friesen, 737 Nottingham Avenue, Winnipeg, Manitoba R2K 2C7; 204/667-2598.

ST. CATHARINES, ONTARIO, CANADA. November 24: Thanksgiving Meet '81. Theme: Structures, featuring model contest, tape/slide clinics, live clinic. Sponsored by International Division, NFR, NMRA, at St. Catharines Library, 1900 Hours; adm. \$1. Info: Pete Moffett, 7 Jolie Court, St. Catharines, Ontario, Canada, L2M 6V5; 416/934-6575.

BUNNIK, THE NETHERLANDS. Oct. 18: Semi-annual meet with auction, Contactgroep N.M.R.A.-Nederland, 10 00-17.00, Postiljon Motel Bunnik near Utrecht. Info: Hans van den Bosch, W.Warnaarlan 70, NL-2172, JA Sassenheim. (31)2522-11435.

Club shows

CERRITOS/ARTESIA, CA. Oct. 17 & 18: Cerritos Valley Model Railroad Club Modular Meet and Show, Cerritos Center, 9AM-closing. Info: John J. Fall, 323 Janice St., Long Beach, CA 90805; 213/924-2422 or 423-4118 eves.

SAN LEANDRO, CA. Dec. 4-6: Annual Christmas Show of the San Leandro Model Railroad Club at Russcraft Hobbies, 685 Bancroft Ave. Free, donations accepted. Fri: 6-9PM, Sat: 12-6PM; Sun: 1-6PM. Info: (415)569-8018

VALLEJO, CA. Oct. 10 & 11: Vallejo Model Railroad Club Fall Show at the Solano County Fairgrounds Civic Bldg., 900 Fairgrounds Dr., 11-6, \$1. Info: Bob Berg, c/o VMRC, P.O. Box 4057, Vallejo, CA 94590; 707/644-0455.

STAMFORD, CT. Nov. 20 & 21, 27 & 28: Stamford Model Railroad Club "O" Scale train and trolley show. St. John's Episcopal Church, Main & Grove Streets, Exit 8 off Connecticut Turnpike. Fri: 7-10PM; Sat: 2-5PM and 7-10PM Adults \$1, children 50¢. Info: Bob Wagner, 203/966-2355.

MILFORD, DE. Nov. 14 & 15: Second annual open house of the home of Wilmington & Southern Delaware at 607 Marshal St., 10-7PM. Info: Send SAA to Dennis Hays, 510 N W Front Street, Milford, Delaware 19963; 302/422-3925 and 422-9636.

LEHIGH ACRES, FL. Oct. 9: The Model Railroad Club of Lehigh Acres at the Lehigh Acres Public Library will have three showings of a model railroad film, at 2:30, 4:30 and 7:30 PM, in the Heritage Room, followed with a question and answer session. All ages invited. No charge. Info: W. Deppe-Ouade 369-4464.

LEHIGH ACRES, FL. The Month of November: The Model Railroad Club of Lehigh Acres will have their annual static display of various gauges of model railroading at the Lehigh Acres Public Library. Info: W. Deppe-Ouade, Sec. 369-4464.

LEHIGH ACRES, FL. Nov. 14: The Model Railroad Club of Lehigh Acres, in conjunction with the Cape Coral Model Railroad Club, will hold their annual display of all gauges of model railroading at the Fort Myers Public Library from 10-4PM. No charge. Info: W. Deppe-Ouade, 369-4464

BATAVIA, IL. Nov. 20, 21 & 22: Midwest Railroad Modelers Open House at 14 E. Wilson Street. Fri. & Sat: 7-10PM; Sun:

noon to 5PM. Over 12, \$1; children 5-12, 50¢. Info: Tony Carlini, 14 E. Wilson St., Batavia, Illinois 60510; 312/879-3371.

DECATUR, IL. Nov. 8: Decatur Model Railroad Club Open House and Swap Meet, 2350 N. Monroe, Macon County Chest Clinic. 12:30 to 4:00 PM; \$1.00 Info: Mike Kloeppel, 2920 E. Hickory, Decatur, Illinois 62526; 217/422-8776.

EAST MOLINE, IL. Nov. 7 & 8: Quad City Society of Model Engineers open house, 1-5PM each day. Operation of HO layout and movies at Lee's Barber Shop, 926 15th Avenue, rear entrance (behind Aldi Food Store) Info: Tom Rasmussen, 4514 12th Street, East Moline, IL 61244; 309/796-0018

SOUTH ELGIN, IL. Nov. 20, 21 & 22: Open House of the Valley Model Railroad Club, located on Kenyon Road, quarter mile West of Rte. 25. Fri: 7-10PM; Sat: 2-10PM, Sun: 2-8PM.

PARSONS, KS. Sept. 26: Parsons Model RR Engineers 2nd Annual Model RR Meet and Show, Parsons Municipal Building basement, 8:30-4:30. Pre-registration: adults \$2.50, children \$1.50. At the door: adults \$3.50, children \$2. Movies, slides, swap. Contests, layout tours, etc. Info: Bill Collins, 512 South 30th, Parsons, KS 67357. (316)421-0514

BATON ROUGE, LA. Nov. 21 & 22: HO and N scale operating layouts, displays, commercial exhibits, at the Baton Rouge Garden Center (both days), 7950 Independence Blvd. 10-6PM. Adm: adults - \$1.50, children under 12 - 75¢. Info: Keith Moses, Show Chairman, 2345 E. Contour Dr., Baton Rouge, LA 70809, 504/926-6152

WEST BARNSTABLE, CAPE COD, MA. Nov. 8: Cape Cod Model Railroad Club Annual Open House at HO layout in Club's baggage car just off Rt. 149 near Rt. 6A, 12-5PM. \$1 each or \$2 per family. Info: Bob Black, Black's Weaving Shop, 625 Rt. 6A, W. Barnstable, MA 02668; 617/322-3588.

BALTIMORE, MD. Sept. 26 & 27: WB&A Tracooners Annual open house, Sat. 9-9PM, Sun. 9-6PM O scale traction operation for city, interurban, and heavy electric railroad from overhead wire. Entrance to Club is at the rear of 4009 Frederick Ave. Info: D. Kingston, 4022 Massachusetts Ave., Baltimore, MD 21229; 301/646-2530 after 6 PM

FREDERICK, MD. Nov. 15 & 22; Jan. 10 & 17: Frederick Model Railroad Club Open House. 1 to 5 PM, at Baggage car behind Wayside Radio, 423 East Patrick St. Free. Info: Warren C. McClure, 61 Sherwood Dr., Walkersville, MD 21793. (301)845-8410

HOLLY, MI. Sep. 12-13, 26-27, Oct. 10-11: Detroit Model RR Club open house at 104 N. Saginaw. 10:00AM to 6:00PM. Adm \$1.00, children 5 to 12, 25¢ Info: Richard Tomlinson, Pres., 104 N. Saginaw, Holly, MI 48442, 313/634-9167, Tuesday only between 7-10PM

LITTLETON, NH. Nov. 21: Second Annual Fall Model Railroad Show sponsored by Ammonoosuc Valley Railway Association, Box 72, Bath, NH 03740, at Continental 93 Motor Inn, Exit 42 off I-93 10-5PM. Adults \$1. Slide shows, displays, prototype & model railroading, operating layouts Info (603)444-3369

FLEMINGTON, NJ. Oct. 3, 4 & 10, 11: Flemington Central & Navigation Co. R.R. Annual Show, Hwy 202, 3 miles north of Flemington. 1-5PM \$3 adults, \$2 children. Reserved shows 11:30 daily—\$3.75 & \$2.75. Tickets in advance: SAAE to Bruce Williams, R.D. #1, Box 18 Flemington, NJ 08822 (201)782-3474.

NORTH HALEDON, NJ. Nov. 27, 28 & 29: Annual Club Show of Model Engineers Railroad Club of North Jersey at 569 High Mountain Road, North Haledon, NJ 07508. Adm. 50¢ for children and \$1 for adults. O scale. Fri: 7-10PM; Sat: 2-5PM; Sun:

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2-6PM. Info: Club, address above, or Fred Grosinger, 201/835-3883.

ALBUQUERQUE, NM. Nov. 22: Rio Grande Valley Model RR Club Show, on the New Mexico State Fair Grounds in Albuquerque. Sunday: Noon to 5PM. Free. Info: David A. Newbold, Secretary, RGV Model RR Club, 1819 18th Loop, Kirtland AFB, NM 87116.

CHEEKTOWAGA, NY. Nov. 21: United Commercial Travelers Modular Show, Cleveland Heights Christian Church, 4774 Union Rd., 10-6PM. Free. Info: Ted McConnon, 22 Red Oak, Williamsville, NY 14221; 716/688-9169.

LONG ISLAND CITY, NY. Nov. 20, 21 & 22: Empire Model Railroad Association, Model Railroad Show. HO operation and train movies. Fri: 7-10PM; Sat: 1-5 & 7-10PM; Sun: 1-5PM. Club is at 34-05 44th Street, Long Island City, in the basement of apartment building, 3 blocks from IND subway. Info: Empire Model Railroad Assoc., PO Box 1127, Long Island City, NY 11101. Club telephone 212/392-124, Tues. and Fri. eves.

NEWBURGH, NY. Sept. 26-27: The Charles Hunt Ring of the Circus Model Builders of America will hold a Circus Model Exhibit of Circus Items & Models at the Newburgh Recreation Hall 10-7PM Sat. and 10-3PM Sun. On Route 32 just off the corner of Rt. 300. Sponsored by the Town of Newburgh's Model Railroad Club. Adm. 50¢ adults, children under 12 free. Senior citizens, free.

COSHOCOTON, OH. Nov. 14-15: A.M.R.E.C.'s Annual Open House to be held Nov. 14 10-6PM and Nov. 15 12-6PM at 225 N. 2nd St. Info: Roger E. Beighley, 345 Mc Clain Ave., Coshocton, OH. (614)622-8686.

MARION, OH. Nov. 8 & 15: Marion Model Railroad Club's Open House (HO, HO3, traction), Old Union Depot, 532 West Center St. 12 Noon until 5 PM. Free. Info: Tim Black, 1009 Brookview Ct., Findlay, OH 45840; 419/422-1630.

MEDINA, OH. Oct. 25: Medina Model RR Club show, 10:00AM to 5:00PM at the Medina Community Center, Medina Fairgrounds. Adm: adults \$2.00, children under 12 50¢. Info: Bruce Dunkle, 865 Greenfield Dr., Medina, OH 44256; 216/722-2578.

MANSFIELD, OH. Nov. 7-8: Travelin' Trainmen of North Central Ohio Annual Train Show and Open House at the United Auto Workers Union Hall, Business Rte. 30 (4th St.), 1/2 mile west of the Richland Mall. Layouts: O, HO, N and HO traction. Sat: 10AM to 8PM; Sun: 10AM to 5PM. Info: D.P. Brennan, P.O. Box 3522, Mansfield, OH 44907.

PIQUA, OH. Nov. 22: West Central Ohio Model R.R. Club Flea Market, 11-5PM. Dealer set-up 9-11AM. Piqua National

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Guard Armory, Route 36, 1/2 mile west of I-75. Adm. \$1. Info: Doug Short, 624 Highland Ave., Sidney, OH 45365; 513/492-2059.

PORTLAND, OR. Nov. 7-8, 14-15, 21-22: Columbia Gorge Model RR Club Annual Show at 3405 N. Montana Ave. All Steam weekend on Nov. 7 & 8. 1-8 PM. \$1.25 adults, 75¢ children. Info: Phil Maggs, 2925 SE 164th Ave., Portland, OR 97236. (503)761-9527.

AVIS, PA. Oct. 4: Clinton Central Model RR Show at Avis Fire Co., Rt. 150, 9AM-3PM. Adm. \$1.50, family \$2.50. Info: Clinton Central Model RR Club, P.O. Box 143, Lock Haven, PA 17745.

BELLEFONTE, PA. Sep. 19-20: Nittany Valley Model RR Club open house, noon-8PM (Sat.) & noon-6PM (Sun) at 141 S. Allegheny St. Adm: adults 50¢, children under 12 25¢. Info: Ross B. Grenard, P.O. Box 185, Loganton, PA 17747.

WENATCHEE, WA. Oct. 17: 89th anniversary of the Great Northern Silver Spike ceremony sponsored by the NCW Museum and the Great Northern Cascade Modelers, at the NCW Museum, 127 South Mission Street. 1-4PM: model railroad show; 7:30PM: address by Dr. Albro Martin, Harvard University railroad historian and author. Free adm. Info: Chuck Strawn, 127 So. Mission, 98801; 609/662-4728.

MILWAUKEE, WI. Oct. 24, 25, 31 & Nov. 1: Model Railroad Club of Milwaukee Inc. Annual Open House Show. O Scale at 215 E. National Ave., 1-5 PM. \$1 adults, 50¢ under 12. Info: Dale Kujoth, 6435 A.W. Bradley Rd., Milwaukee, WI 53223; 354-6442.

MELBOURNE, AUSTRALIA. Oct. 17-18: Glen Waverley Model Ry. Club Annual Exhibition at Treseder Hall, Glen Waverley High School, O'Sullivan Rd. Sat. 8:30-9:00PM; Sun. 10:00-5:00PM. Adults: \$1.00, children 50¢. Info: G. M. Grainger, 544-1820.

BURLINGTON, ONTARIO, CANADA. Oct. 31: H.O. Model Engineers Society presents an evening of Railroad Movies and Slides at 7:30 PM in The Royal Botanical Gardens Administration Bldg., 680 Plains Road West. Adm. \$3. Info: John Spring, 191 Walter Avenue South, Hamilton, Ontario L8K 3L1; 416/549-7142.

LONDON, ONTARIO, CANADA. Oct. 4: London Model Railroad Group Inc., Train Exchange '81 at U.A.W. Hall Local 1520, just off 401 at exit 19, turn south at Hwy. 4 exit, first road to left. Noon to 5PM. Adm: \$1, children 60¢. Info: Joe Chiasson, 211 Novello Ave., London, Ontario. (519)685-2897.

TRURO N.S., CANADA. Oct. 24: Truro and Moncton N.B. Model R.R. Club's Show, 10AM to 5PM, St. Mary's School Auditorium. Full program. Info: Bob Pearce, 66 Mt. Pleasant Blvd., Truro N.S., CAN. B2N3N7 (902)895-8406.

KAISERSLAUTERN/LANDSTUHL, WEST GERMANY. Nov. 14: Landstuhl Railroad Club, German/American Open House and Show, Landstuhl Recreation Center (Bldg. 3705), 11-7 Sat. Free. Info: MSgt. Bill Broughton; Ramstein Military 7327 (days), German Civilian 06303-6673 (evenings).

Train collectors meets

DOTHAN, AL. Oct. 10: Meeting of Gulf Wind Chapter, Southern Division, TCA, Host: S. Dean Runnels, P.O. Box 597, Dothan, AL 36302.

MONTGOMERY, AL. Jan. 9: Meeting of Gulf Wind Chapter, Southern Division, TCA, Host: Thomas E. Jaworowski, 510 Georgetown Drive, Montgomery, AL 36109.

BUENA PARK, CA. Sept. 26: Pioneer Western Railroad Club Swap Meet, 7422 Orangefhorpe, 9AM to noon. Free. Info: Paul Bush, O.D., 1619 Sunny Crest Dr., Fullerton, CA 92635, 714/526-6718.

ESCONDIDO, CA. Oct. 10: Lionel Collectors Club of America's Meet, at Escondido Masonic Lodge, 1331 S. Escondido Blvd. Trading 11 to 4 PM. Host: Steve Latta, 714/745-5011.

LAKEWOOD, CO. Sept. 19: Foothills Society of Model Railroaders swap meet at Rockmont College, 181 So. Garrison St. Info: 988-2267.

GREENWICH, CT. Sept. 27: Fall Train Show-Sale and Swap Meet at Greenwich Civic Center, Harding Avenue, 9-2:30 PM. Adm: pre-registered \$2, at door \$3. Children under 12, free with adult. Info: Ernie M. Knudsen, 220 Trouville Rd., Copiague, NY 11726 (516)691-7628.

NEW HAVEN, CT. Oct. 4: The New York, New Haven and Hartford Toy Train Meet at Annex YMCA Hall, 554 Woodward Ave. 9-2PM (195 exit 50 eastbound, exit 51 westbound near the junction of 191). \$3 pre-registration; women & children \$1, under 5 and seniors, free. SSAE to Ludwig Spinelli, P.O. Box 5061, Bridgeport, CT 06610; 203/333-5186.

FORT MYERS, FL. Nov. 14: Cape Coral Railroad Club Annual Exhibit and Swap Meet at Fort Myers Public Library, 10-4PM. All gauges and live steam. Free admission. Info: Bruce Raykiewicz, Route 14, 128 Isle of Pines Avenue, Fort Myers, FL 33905; 813/694-4054.

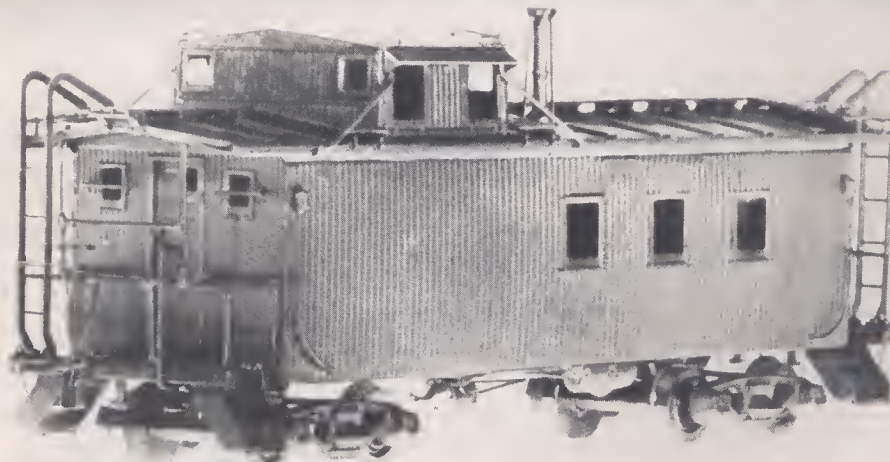
TAMPA, FL. Oct. 11: Tampa Bay Train Swap & Flea Market at Quality Inn/East, Jct. I-4 & 50th St. (Hwy 41), 10-5PM. All scales & RRiana. Adm: \$1, under 13, 25¢. Info: Jerry Gorla, 506 E. Anglewood Dr., Brandon, FL. 33511. (813)685-5480.

GALESBURG, IL. Oct. 31: Burlington Route Historical Soci-

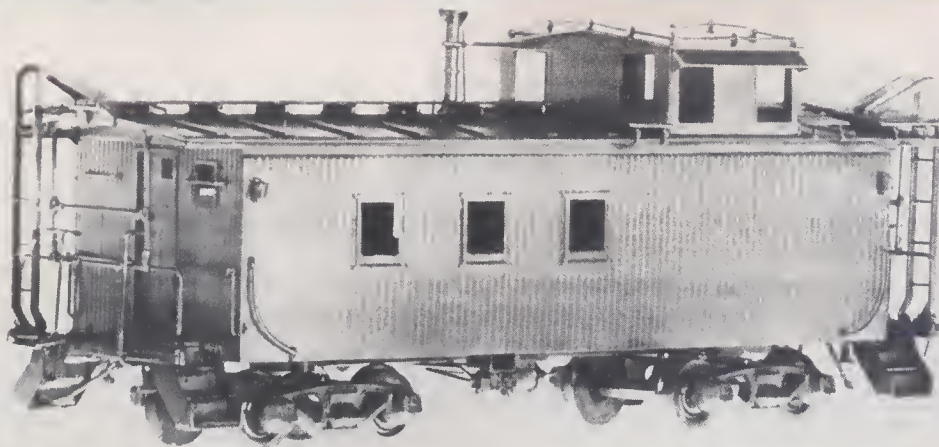
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ety Railroadiana and Model Railroad Swap Meet at Galesburg Holiday Inn, Route 34 & 150. \$1. Info: BRHS, Jim Miller, P.O. Box 196, Bensenville, IL 60106; 312/388-1152.

ROSSVILLE, IL. Sept. 20: Danville Junction Chapter/NRHS Fall Railroadiana and Model Swap Meet., Rossville Grade School, Rt. 1 and Benton St., 9-2. \$1 Children under 12 Free. Table Res., Larry D. Prosser, 707 Brentwood, Tilton (Danville) IL 61832.

BATON ROUGE, LA. Sept. 26: Lionel Collectors Club of America's Meet, at the Monarch Inn, 1-12 at Sherwood Forest exit, trading 9-3PM. Guests of members \$3. Host: Louis Montelaro, 504/924-0836.

METAIRIE (NEW ORLEANS AREA) LA. Oct. 17: Fall Swap Meet and Open House, 10-5PM, at the Country Store, Crescent City Model RR Club, 601 N. Lester, Metairie, LA 70003. (504)834-8397 9-5PM.

GAITHERSBURG, MD. Sept. 27: Rockville Society of Model Engineers Thirteenth Annual Auction and White Elephant Sale, Montgomery County Fairgrounds, Chestnut Street. Doors open for Reg. 9AM. White Elephant Sale begins 9:30AM, auction 11:30AM. \$1 Adults, 10% commission on items sold. Info: Jim Novaco, 4607 Powder Mill Rd., Beltsville, MD 20705; 301/937-1136; or Bill Gray, 301/942-0639.

ODENTON, MD. Oct. 25: Odenton Train Meet, from 9-3PM, Odenton Fire Hall Md. Rte. #175. Open to the public. Adults: \$2; under 12 free. Info: Jim Hejl, 512 S. Conkling St., Baltimore, MD 21224; 301/342-3647 10-5 PM.

ALLEN PARK/DETROIT, MI. Oct. 4: Allen Park Model Railroad Club's 7th annual flea market and auction, 11AM-5PM at the VFW Hall, 16736 Ecorse Rd. Adm. \$1, women and under 12 free. Table reservations and info: A. Zombor, 18630 Ruth, Melvindale, MI 48122; 313/388-5096.

DEARBORN, MI. Oct. 25: Redford Model Railroad Club Trainorama '81, at Edsel Ford H.S., 20601 Rotunda Dr., 10-5. Model railroad and RRiana flea market, operating layouts, films. Adm. \$1, \$2.50 per family. Info: Larry Wolohon, 22439 Olmstead, Dearborn, MI 48124. (313)277-2536 evenings.

GRAND RAPIDS, MI. Oct. 25: Western Michigan RR Club Flea Market, 10-5 PM, at the Knights of Columbus Hall, 5830 Clyde Park Ave. Adults: \$1; under 12, 25¢. Info: SSAE to Ray Nawrot, 5830 Clyde Park Ave., SW, Grand Rapids, MI 49509; 616/538-6130.

KALAMAZOO, MI. Nov. 8: Kalamazoo MRRRC Model & RRiana Flea Market, 10-; at Kalamazoo County Cent. Bldg. on Lake St. \$1 adults, 50¢ child. Info: Norman Russell, 2427 Aberdeen Dr., Kalamazoo, MI 49008; 616/349-1784.

RRiana Flea Market, 10-5; at Kalamazoo County Cent. Bldg. on Lake St., \$1 adults, 50¢ child. Info: Norman Russell, 2427 Aberdeen Dr., Kalamazoo, MI 49008; 616/349-1784.

LANSING, MI. Nov. 15: Lansing Model Railroad Club Flea Market at the Nat'l Guard HO Armory, 2500 S. Washington, 10-4:30PM. Adm: \$1. Info: Thomas G. Hawley, 2311 Strathmore, Lansing, MI 48910. (517)482-2048.

WOODBURY, MN. Oct. 24: Greater East Area Model Railroad Club Model Railroad and RRiana Flea Market, 11 - 4 PM, at Woodbury Sr. High School. Adm. \$1. Info: Joseph Maiden, 1420 12th Avenue, Newport, MN 55055. (612)459-5697.

FLORISSANT, MO. Oct. 31: Railroad Show and Swap Meet by The McDonnell Douglas Railroad Club, 9AM-3PM at the Cross Keys Shopping Center Mall, New Halls Ferry and Lindbergh Blvd. Free Adm. Advance space \$4, at door \$6. Info: Lonnie Boster, 12457 Larkwood, Creve Coeur, MO 63141. 314/434-5980.

KANSAS CITY, MO. Oct. 31: Greater Kansas City Area Model Railroad Meet at St. Pius X High School, 1500 N.E. 42nd Terrace, 8:30-4PM. Adm: \$4 thru Oct. 17; \$5 at dr.; \$1.50 12 and under. Full prog. w/prototype tour. Info: Gary Allen, 3809 N.W. 62nd Terrace, Kansas City, MO 64151. (816)741-5284.

DOVER, NJ. Sept. 27: Northwest Jersey Train-O-Rama at Dover High School, Grace Street, 9-3PM. Adm: \$2 adv., at dr. \$3. Children under 10 free with adults. Info: Donald Brill, 39 Sixth Street, Dover, NJ 07801 (201)361-0723.

MERCHANTVILLE, NJ. Sept. 26: Cherry Valley Model RR Club O Scale Train Meet 9-5 at Morrell Hall Grace Episcopal Church, Maple Ave. & Centre St. Adm: \$3. Info: Charles I. Jacobs, Jr., 100 Grant Avenue., Morrestown, NJ 08057. (609)234-1898.

SOMERSET, NJ. Nov. 8: D&K's Train Meet at Travelodge, 1850 Easton Ave., 9-2:30PM. Info: Call Fred Dauncey, 201/755-7989, or Jim Krakowieki, 201/463-8696.

SOMERSET, NJ. Jan. 3: D&K's Train Meet at Travelodge, 1850 Easton Ave., 9-2:30 PM. Info: Call Fred Dauncey, 201/755-7989, or Jim Krakowieki, 201/463-8696.

ALBANY, NY. Oct. 11: Capitaland Train Meet at Polish Community Center, Washington Ave., 10-4. Adm: adults \$1.50, children 75¢. Info: Len Welter, P.O. Box 3300, Schenectady, NY 12303. (518)373-9124.

ALEXANDER, NY. Nov. 8: Fall flea market — all gauges — by Genesee Society of Model Engineers at Fireman's Rec. Hall, 9-2PM. Adm. \$1 at the door. Info: Marty Phelps, 8939 Alexander Rd., Batavia, NY 14020; 716/343-7976.

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EAST ISLIP, NY. Sept. 27: All Gauge Model Train Collector's Meet by the Suffolk Co. Model R.R. Engineer's at the Knight's of Columbus Hall, Hawthorne Avenue. 10AM-2PM. Adults \$2.50, under 12 free. Info: 516/589-5972.

HAUPTPAUGE, LONG ISLAND, NY. Nov. 28 & 29: Greenberg's Great Train Miniature & Toy Show: HO, N, Brass, Lionel, American Flyer, Marx, railroadiana, doll house miniature and toys. 11-5. Adm: \$3 per day. Colonie Hill, Exit 57, Long Island Expressway, left at light, then 1.5 miles. Info: Lois Barger, 729 Oklahoma Road, Sykesville, MD 21784; 301/997-3056.

PATCHOGUE, NY. Nov. 1: Patchogue Model R.R. Engineers, Inc., 6th Annual Model R.R. Train Meet and Hobby Show, K. of C. Hall, R.R. Avenue. 10-4 PM. Adults \$2; Sr. citizens \$1; 12-16 yrs. \$1; under 12 free. Info: D.H. Stiles, 24 Franklin Street, Brentwood, NY 11717; 516/273-0086.

POUGHKEEPSIE, NY. Oct. 4: Hudson Valley Railroad Society Tenth Annual Railroad Hobby Show at the Mid-Hudson Civic Center, noon to 5PM. Operating layouts, displays, RRiana, swap, etc. Adults \$1.50, children 50¢. Info: Ralph Gabler, 67 Birchwood Drive, Rhinebeck, NY 12572.

ROCHESTER, NY. Sept. 26: Kodak City Model RR Club's 2nd annual model train Swap Meet at Elk's Club, 758 South Ave., Rochester, 10-4 PM. Adult adm: \$1, under 16, 50¢. Info: Russ Christensen, 16 Cedarwood Circle, Pittsford, NY 14534. (716)586-3163.

ROCHESTER, NY. Nov. 1: Toy Train Collectors Society Ltd. Train Show, Sale and Swap Meet, at Monroe County Fairgrounds, Bldg. #2, Rochester, NY, 11-4-30 PM. Adm: adults \$1; children (under 12) 50¢. Info: Thomas McCormack, 200 Blackwell Lane, Henrietta, NY 14467; 716/334-6445.

RYE, NY. Nov. 8: Westchester Model Railroad Club Train Meet at the Rye High School Cafeteria, Noon-4PM, Corner of Parsons Street and U.S. 1 (Boston Post Road). Adm. \$3 (spouse free); 12-15, \$1; under 12 free. Info: Bob Wilson, P.O. Box 358, Rye, NY 10580; 914/967-7810.

SCHENECTADY, NY. Nov. 1: Giant Train Extravaganza w/ trading oper. layouts and displays, 10 - 4 PM, at the IUE Hall, 121 Erie Blvd., about 3 blocks from the Amtrak station. Sponsored by the Upstate Train Associates and the Mohawk & Hudson Chapter, NRHS. Adult admission: \$1.75; children 75¢. Info: SSAE to Mohawk & Hudson Chapter, NRHS, P.O. Box 523, Schenectady, NY 12301.

SYRACUSE, NY. Nov. 21-22: Seventh Annual Central New York Model Train Fair w/operating displays and exhibits; all scales. Art & Home Center, New York State Fairgrounds. Sat: 11AM-10PM, Sun: 11-6PM. \$2 adults, \$1 children. Spon. by

Cent. New York Chap./NRHS. Info: Albert Kallfelz, 111 Wind-ing Way, Camillus, New York 13031. (315)672-8065.

SYRACUSE, NY. Oct. 25: The Great Halloween All-Gauge Train Meet, sponsored by Central New York's Gauge Assoc. Inc., at the Valley American Legion Post, 110 Academy Pl. (Exit 17 off Rte. 81), 9-4PM. Adults \$1, children 25¢. Info: Jack Creiman, 8076 Pickett Lane, Clay, NY; 315-699-4201.

VALLEY STREAM, NY. Oct. 18: Long Island Train-A-Rama and Auction, noon to 5PM, Knights of Columbus Hall, 1 East Lincoln Ave. (corner of Rockaway Ave.). Adm: \$2.50. Sponsored by Rockville Centre Model Railroad Inc. Info: D. Yudenfreund, 353 St. Marks Ave., Freeport, NY 11520.

VESTAL (BINGHAMTON), NY. Oct. 4: All Gauge Train Meet by the Binghamton Society of Model Engineers at Vestal American Legion, Legion Ave. 9-3PM. Advance adm: \$1; at door: \$2. Info: Don Reining, 300 Vestal Rd., Vestal, NY 13850; (607)754-0417; or Bud Vitale, 10 Hinds St., Montrose, PA 18801, (717)278-3064.

FARGO, ND. Nov. 1: Valley Railfans 3rd Annual Railroad Flea Market and Train Show at Shanley High School, 705 - 13th Ave. N. 11-4PM. Adm: 50¢ over 12. Info: Bill Flint, P.O. Box 914, Moorhead, MN 56560; 701/293-7992 eves.

AKRON, OH. Oct. 11: Rubber City Hobo's 2nd Annual All Gauge Flea Market and Railroadiana Sale, Thomastown Bldg., 1280 Triplett Blvd. Adm. \$1.50, under 12 free. Info:

DAYTON, OH. Nov. 14 & 15: Division 3, MCR, Railroad Flea Market & Model Show, Montgomery County Fairgrounds, 12-5PM. Adm. \$1 per person or \$3 per family. Info: Kenneth Allen, 3576 Jayfred Circle, Dayton, OH 45432.

GREENVILLE, OH. Sept. 20: All Gauge Train Flea Market, noon-5, at the Darke County Fair Grounds, Rt. 49. Adm. \$1, adults, \$2.50 family. Tables & info: Ronald Dietrich, 5665 Hogpath Rd., Greenville, Ohio 45331; 513/548-4780.

MINGO JUNCTION, OH. Oct. 4: Lionel Collectors Club of America's Meet, at Knights of Columbus Hall, Legion Drive. Trading 10-3PM. Guests of members \$3. Host: Dave Julio, 614/537-4911.

TOLEDO, OH. Nov. 11: Waterfront Electric Railway Fourth Annual Model Railroad Flea Market and Displays at Lucas County Recreation Center Fairgrounds, Key Street. Noon to 5 PM. Adm. \$1, family \$2.50. Info: SSAE to Charles E. Pauken, 1405 Harvard Blvd., Toledo, OH 43614; 419/382-8254.

YOUNGSTOWN, OH. Sept. 27: Annual Flea Market at National Guard Armory, 475 Victoria Rd., Noon-5 PM; sellers only at 10AM. Adm. \$1. Info: Robert Dulovic, 880 Boston Ave., 44502. (216)788-7469, 7-9 PM Only.

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The Coal Tender Car is the perfect mate for Beam's Locomotive Decanter. Made of fine Regal China Porcelain, it has been designed and created with the same thought and craftsmanship as the other cars in the Beam Train

series. The authentically detailed custom-made Beam gauge railroad track is the perfect way to display your Beam train. Each track holds one car. For information on Beam's Coal Tender Car and Track, write: Railroad Offer, Box 3401, Merchandise Mart Station, Chicago, IL 60654.

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Regal China train set now!



Collecting genuine Regal China Porcelain Decanters offers you the double reward of enjoying an interesting hobby and building an increasingly valuable collection of limited editions.

Each offering is created, crafted and produced in America and the quality is unsurpassed. Start your collection or add to it now with these nostalgic reproductions that make up Beam's Regal China train set.



Coming Soon! Beam's Baggage Car.

Be on the lookout for this handsome limited-edition Regal China Baggage Car. It's an authentically-appointed companion to the Beam Locomotive, Coal Tender, Passenger Car and Caboose, packed with 750 ml of 80 proof, 150-month-old Kentucky Bourbon Whiskey. Ask your favorite package goods store to reserve your Beam's Baggage Car and notify you when it arrives.



Last but not least, Beam's Caboose.

This replica of the original New Jersey Central Caboose is authentic even to the lanterns. It measures 11 1/4" long, 5 1/2" wide, 8 1/2" high and has 750 ml cargo of 80 proof, 150-month-old Beam Whiskey. Order through your local package goods store. The Beam Train Series just wouldn't be complete without Beam's Caboose bringing up the rear.



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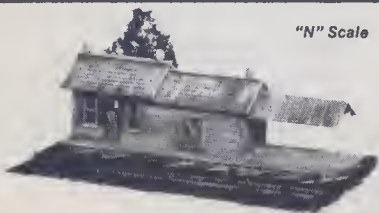
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Effective June 1, 1981, ALL
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Scheduled NEW Catalog No. 82 will be delayed
2-3 months. However, send large (No. 10)
SSAE for **FREE Recent Additions Sheet**
and **Price List** that upgrades Catalog No. 79 to
as current as No. 82 will be!

If you have no Catalog send \$1.50 for No. 79 up-dated
as above. (For First Class send \$1.75.)

CHAMP DECALS

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MINOT, NORTH DAKOTA 58701

ALLENTOWN, PA. Sept. 27: NRHS/Lehigh Valley Chapter Railroadiana and Model Railroad Show & Sale, 10-4, at Dieruff H.S., Washington and Irving Sts., 2 miles so of US RT 22 at Airport Rd. exit. Adm. \$1.75 (\$3 per family). Info: Paul A. Kuehner, P.O. Box 300, Laury's Sta., PA 18059; 215/799-2530.

GREENWOOD, PA. Oct. 11: Greenwood Train Meet, 9-2, at the Greenwood Firehouse, Rte. 11, Moosic. Adm. \$3. Info: Joe Grzybowski, 3475 Pittston Ave., Moosic, PA 18507. (717)347-3314.

LANCASTER, PA. Nov. 8: Lancaster Jaycee Red Rose Train Meet, at Farm and Home Center, 9-3PM. \$2 adults, \$4 family. Info: James Keebler, 1658 Glenn Road, Lancaster, PA 17601; 717/393-3408.

MONACA, PA. Sept. 20: Lionel Collectors Club of America's Meet at the Monaca Turn Club, Brodhead & Chapel Rds. Reg. 9-10AM. Trading 10-3PM. Guests of members \$3. Host: Butch Zatchey, 412/869-5045.

MORGANTOWN (READING), PA. Oct. 4: Reading Co. Technical and Historical Society Train Meet at Morgantown Fire Hse., off PA. Turnpike, Exit 22, 1 1/2 blocks East of PA. RTE. 10 on PA. RTE. 23. 9AM-3PM. Adults \$2., children under 12, \$1. Info: Donald H. Edwards, R.C.T.&H.S., Box 356 Birdsboro, PA. 19508; or Donald H. Edwards, Box 242, Morgantown, Pa. 19543; 215/286-5705.

PITTSBURGH, PA. Nov. 28-29: Greenberg's Great Train, Miniature & Toy Show: HO, N, Brass, Lionel, Marx, railroadiana, doll house & miniatures and toys. 11-5PM. Adm. \$3 per day. At the Great Pittsburgh Merchandise Mart, Monroeville, Turnpike to Exit 6, then 2 miles west. Info: Lois Barger, 729 Oklahoma Rd., Sykesville, MD 21784; 301/997-3056.

REEDSVILLE, PA. Oct. 25: Second Annual Mifflin Co. Model Railroad Club Train Meet at Mifflin Co. Youth Park, Rt. 322. Info: Don Kline, RD 2, Box 160, Belleville, PA 17004.

YORK, PA. Oct. 25: West York Train Meet at the Alert Fire Co., Emigsville, 10-3 PM. Adm. \$1. Sponsored by West York Society of Model Engineers. Info: James D. Landis, 19 N. Seward St., York, PA 17404.

WASHINGTON, D.C. Oct. 31-Nov. 1 - Greenberg's Great Train, Miniature & Toy Show. HO, N, O, Lionel, American Flyer, Marx, railroadiana, doll houses & miniatures. Adm. \$3. Location: D.C. Armory (From Washington Beltway, 495 in Maryland, take Washington-Baltimore Parkway south, exit for 295-Kenilworth Avenue, then take exit marked Downtown Washington, then follow signs). Info: Bruce Greenberg, 729 Oklahoma Rd., Sykesville, MD 21784. (301)997-3056.

EDMONDS, WA. Sept. 20: Swamp Creek & Western Railroad Club's second annual Super Swap & Clinic Meet. Open to the public 1-6PM at the Francis E. Anderson Cultural & Recreation Center, 700 Main St. Refreshments avail. Table reservations & info: Al Robinson, Swamp Creek & Western RR Club, 211 Railroad Ave., Edmonds, WA 98020; 206/543-5677.

SPOKANE, WA. Oct. 25: Fifth annual Inland Empire Model Show and Swap Meet, sponsored by four local clubs, at Spokane Interstate Fairgrounds, N. Havana and E. Broadway, 10-4PM. Operating layout, films, optional 2' gauge train ride. Adm. \$2, under 12 free. Info: SSAE to Lee Tillotson, 2627 Southeast Blvd., Spokane, WA 99203; 509/535-8417 eves.

SPOKANE, WA. Oct. 24: Divisional NMRA Meet, 1017 First St. Info: SSAE to Lee Tillotson, 2627 Southeast Blvd., Spokane, WA 99203; 509/8417 eves.

MILWAUKEE, WI. Sept. 20: Lionel Railroad Club All Gauge Swap Meet at the V.F.W. Hall, 3120 W. Villard Ave. (rear entrance), 10-2PM \$1. Info: Chuck Zehner, 3005 17th Pl., South Milwaukee, WI 53172; 414/764-3649.

MILWAUKEE, WI. Sept. 27: Baderland S Gauge RR Club All Gauge Swap Meet at the Bowlero Bowling Lanes, 11737 W. Burleigh St., 10 to 2. Adm. \$1. Info: Dick Kloes, 9735 W. Morgan Ave., Milwaukee, WI 53228; 414/543-8839.

MILWAUKEE, WI. Oct. 18: Lionel Railroad Club All Gauge Swap Meet at the V.F.W. Hall, 3120 W. Villard Ave. (rear entrance) 10-2PM. \$1. Info: Chuck Zehner, 3005 17th Pl., South Milwaukee, WI 53172; 414/764-3649.

PARKERSBURG, WV. Oct. 11: Lionel Collectors Club of America's Meet, Knights of Columbus Hall, Market Street. Reg. 9-10AM. Trading 10AM to 3PM. Guests of members \$3. Hosts: J. Caldwell, 304/295-7994, and G. Wood, 304/863-5875.

CAMBRIDGE/GALT, ONTARIO, CANADA: Sept. 19: Boomer Auction at the Duncan McIntosh Community Centre, 200 Christopher Dr., Preview 10AM - 1PM; auction at 2PM. Info: Eric Schinkel, R.R. 1 Ayton, Ontario, NOG 1 CO. 519/665-7607.

VANCOUVER, WA. Sept. 26-27: Great Train Expo and Swap at the Marshall Comm. Center, 1009 E. McLoughlin Blvd. Info: Jacobus Auto Body, 2909 N.E. 65 Street, Vancouver, WA 98663 693-2118.

Railfan events

POMONA, CA. Sept. 10-27: So. Calif. Chapter R&LHS annual display of locomotives and equipment at Los Angeles County Fair. Info: W.A. Smith, 1020 N. Sierra Bonita Ave., Los Angeles, CA 90046; 213/876-4755.

PEORIA, IL. Oct. 16-18: MWR "Gateway '81" Fall Convention at the Continental Regency, 500 Hamilton. Full program with tours. Info: Paul Meier, 458 N. Central, El Paso, IL 61738-309/527-4483.

GAITHERSBURG, MD. Nov. 1: Fourth Annual Gaithersburg Railroadiana Show & Sale, Gaithersburg Fairgrounds. Over 200 tables of railroad items for sale. Info: LSSAE to Charles Miller, 3106 N. Rochester St., Arlington, VA 22213; 703/536-2954.

KENNEBUNKPORT, ME. Nov. 15: Cities around the World — rides in cars from such places as Sydney, Australia, Nagasaki, West Berlin, Blackpool, England, Rome, Hamburg, plus cities of the U.S. and Canada at the Seashore Trolley Museum, Log Cabin Rd. Coffee and donuts in the trolley dining car. Slides and movies. Donation: \$5.

KANSAS CITY, MO. Oct. 2-3: Katy Railroad Historical Society fall meeting at the Ramada Inn Central, 610 Washington. Activities will include tour of Katy facilities and Kansas City Terminal traffic control center, meetings, slide shows and Sat. banquet. Info: C.W. Lyon, 6104 Alhambra, Shawnee Mission, KS 66205. Non-members welcome.

NORTH CONWAY, NH. Sept. 19: Annual Railfan's Day at Conway Scenic Railroad. Double header and two-section steam passenger trains. Flea market. No Adm. Chg.: reg. fares on train rides. Info: Send SSAE to Conway Scenic Railroad, P.O. Box 947, North Conway, NH 03860, 603/356-5251.

RINGOES, NJ. Oct. 11: The Recycling Railroads Fall Spectacular on the Black River & Western Railroad. Sponsored by Recycling Railroads, Inc. (201/579-1311, 9-9 PM, and co-sponsored by the Hunterdon County Park System). Leave 9AM and return 4PM. Ride whole line w/diesel. Optional steam excursion leaves 4:45 and returns 6PM. \$7.50 for diesel trip, \$3 for steam excursion. Send ticket orders with SSAE to Recycling Railroads, Inc., 93 Main St., Newton, NJ 07860. Reserve by 9/25.

FOREIGN TOURS. The following tours have been announced by Sunday River Productions, P.O. Box 565, Concord, MA 01742, 617/369-5744. **INDIA:** Nov. 21-Dec. 13, Bombay, Madras, Nagpur, Vadodara. All economy air and 1st class rail, twin beds, breakfasts: \$1675 from London, \$1150 from Bombay. **NORTH CHINA:** Nov. 23-Dec. 13. Across the North China plain from Peking to Shanghai, Datong, Taiyuan, Jinan, Nanking and Suchow. All meals, air, rail and transfer, \$2785 from London, \$2040 from Hong Kong (sharing twin). **SOUTH CHINA:** Oct. 4-25: Shanghai to Hong Kong via Suchow, Nanking, Cheng Chou, Wuhan and Canton. All meals, air, rail and transfer. \$2785 from London, \$2040 from Hong Kong, sharing twin.



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9448	AT & SF Cattle Car	18.00
6420	Reading Center Cab Caboose	18.00

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9559	Rock Island Combo Car	18.60
9560	Rock Island Pass Car	18.60
9561	Rock Island Pass Car	18.60
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8160	Burger King GP-20	70.80
6449	Wendy's Caboose	13.20
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7510	Red Lobster Reefer	12.60
7511	Pizza Hut Reefer	12.60
	Engine & Caboose	81.95
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8152	CP SD-24 w/horn	98.00
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9441	Denna Box Car (DCST)	33.00
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5705	Ball Glass Jars	18.30
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9813	Ruffles Pot. Chip	12.60
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9817	Bazooka Gum	12.60
9884	Frito's	12.60
9885	Lipton Tea	12.60
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9500	Combo Car	29.94
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S-GAUGE

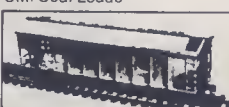
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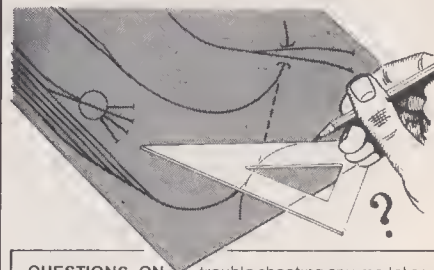
Model photo by R. Salvasser. HO model painted by Gary Yosele

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Trouble Shooting



QUESTIONS ON trouble shooting any model or prototype railroad subject are welcome. Questions should be brief and to the point. We cannot undertake individual layout design work, nor can we recommend specific brands of merchandise. We will print those questions deemed of greatest general interest to readers; no questions can be answered by mail. Write to **Trouble Shooting**, RAILROAD MODEL CRAFTSMAN, P.O. Box 700, Newton, NJ 07860.

Salt air and steel rail

Q I live about a half of a mile from the sea, and my steel rail keeps getting a slight film of rust which interferes with operation. An abrasive pad solves the problem, but only for a while. Can you or your readers suggest another approach to this?

A Unfortunately, all metals are chemically reactive to some degree with salt. You could replace the steel rail with nickel silver rail, which will not react as readily. However this will be an expense. You might try the hair clipper oil which is getting so much publicity at this time. This may not only reduce the

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RMC

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rusting, but also improve electrical contact. Our experience has shown that this light oil tends to evaporate quickly. You'll have to monitor the protection time offered by a coating. Don't try to make a heavy application, since this will result in slipping of driving wheels and an accumulation of oily dirt on the rails and wheels. We've used a cotton swab applicator and applied oil *lightly* on about four inches of track every 20 feet. No doubt, others using clipper oil will suggest their own numbers. Now, we wonder if the Southern Pacific has a similar problem along their coast route?—R.M.

Battleship coal gons

Q I'm looking for information on the high-side six-wheel truck gondolas that roads such as the Virginian, N&W, C&O, and possibly others, used. Has RMC ever run drawings of these cars?

A It sounds as if you are referring to what are usually called battleship gondolas; these were used by several eastern coal roads. Many of these cars had capacities in excess of 100 tons, and they seem to have begun appearing in service around 1920. Most, if not all, were out of service by the 1960's. We found plans for a Virginian 120-ton version in Volume No. 46 of the *Train Shed Cyclopaedia*. This is a reprint of various pages of the 1931 *Car Builders' Cyclopaedia*. The reprint is available from the publisher, Newton K. Gregg, P.O. Box 868, Novato, CA 94947, or at hobby shops. A check of the index to all volumes, lists information on others as well. A brass model was once available for the Virginian car in HO, but there was some question on the accuracy of its dimensions. We have not run a

set of drawings for this car—R.M.

Dummy unit between two powered units

Q On page 83 of the June, 1981, RMC, Eric Brooman said that he ran his road diesels in electrically-connected pairs with a dummy unit between. How is this done?

A While such an arrangement is possible, that's not quite what Eric does. He prefers to put two powered units together with a drawbar and then wire them in parallel. He may add a trailing third unit which is non-powered. One of Eric's limiting factors on locomotive lashups is the length of his turntable. It is designed to handle two six-axle units. The parallel wiring between the units do much to avoid stalling because of small specks of dirt on pick up wheels or track. A drawbar connection eliminates slack action between the two units if one of them hits a dead spot. It also avoids accidental uncoupling and the subsequent pulling apart of the wiring between units.

Some modelers do operate regularly with two powered units bracketing an unpowered one. Again, parallel wiring through the dummy unit and drawbar couplings is a good idea on such "permanent" lashups. Additional weight should be added to the unpowered unit to insure good tracking. If the unpowered unit has metal wheels, you could also utilize them for additional electrical pick up.

I have two locomotive sets that pair powered Hobbytown units with a generously-weighted, metal-wheeled mate. They are parallel wired and the powered unit is equipped with Taurus pick up shoes. This results in truly reliable performance—R.M.

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Clinchfield's Second Moss operates Dante to Moss and return Monday through Friday, usually being called at Dante about 4 p.m. and returning between 2 and 4 a.m.

Second Moss comin' home

Fog—it's always there, hanging low in those hills, even on a clear night like tonight. Dampness, too, cold and penetrating during winter, but warm and almost comfortable on this summer night.

There's hundreds of signals on this railroad. They direct the ebb and flow of traffic; No. 32.4 guards the south end of Trammel Siding and the entrance to Sandy Ridge Tunnel. A flick of a lever, the push of a button—over miles of wire goes a code. A special code. The CTC machine is talking, and with unfailing obedience the signal responds. Back over the same line goes a returning code—the slave responding to the master. The dispatcher leans back in his chair, his part of the job done. Thirty-two point four pushes out a green beam of light into the mist and waits.

You wait, too, shifting from one foot to the other; waiting, waiting, waiting. Cocking your head a bit, you hear the first telltale sounds of an approaching train. You think that you do, anyway, but the mind sometimes does play tricks. Like a detective comparing fingerprints, the ear and the brain talk back and forth to each other. Finally, a match! "Train," you say aloud, realizing, as you do, that there's no one else to hear.

For a while it grows louder, then all is silent. Martin Tunnel No. 20. Bam! Out the other side and much louder now. Louder and closer, the sound is bouncing off the hills. There's a light now, glowing over the hill. It's bright, then dim, feeling its way through the night towards you. But always the sound—the sound of machines at work—sounds of all kinds, some you can hear and some you can only feel.

Lights shine on the rail: it's here! The dust in the running lights tell the tale; he's getting down with a tonnage train. Wafting into the light is the dust from the sanders. Thirty-six wheels grind up the sand. A short blap on the horn for the crossing, as if anybody didn't already know a train was here; there's three SD40's and 8,000 tons of Virginia coal in tow. It takes all 9,000 horsepower to keep it all stepping on a grade where the front of the train is 80 feet higher than its rear. With the units alongside now, the crew flicks the lights to acknowledge your highball. "Dish" Dishman and "Bill Bob" call out, "Send a copy of the picture—if you get anything in the dark!"

The roar is gone, as if it was covered by a blanket. The headlight has found a hole in the mountain, climbed its own beam and has been swallowed up. Still, the rumble comes through. Even the mountain can't swallow all of the noise. And behind comes the coal: clunk-clunk, clunk-clunk, clunk-clunk, broken occasionally by the hissing of an air hose.

There's something warm and friendly about a caboose—the glowing lamp in the window, the conductor working with the bills, the finality of the markers. A piercing spotlight shines from the rear as a lookout for signs of trouble: dragging equipment or wheels on the ground. Then, even that is gone. The mountain swallows everything. Thirty-two point four remains to tell of the train's passing, a red beam reaching out into the fog. It's a warning to any other train that might dare to pass without authority.

"Dante Yard, Second Moss on the hill comin' home."

STEVE KING
modeler

I suppose everyone has heard of the superstition that says a completed train layout is the beginning of the end. According to this notion, interest in all train things begins to fade with the driving of the last spike and the surest way to end a fun hobby was to stop building and start operating. Maybe the warnings were a little overdone, but in a way it seems to be true that unless room is left for change and improvement, the feeling of less than perfect takes away a lot of the fun.

This is not to say that any layout is ever perfect, but the room to expand, improve, and change things around keeps our plans fluid and our dreams alive. After all, change is part of the prototype that we try to model, and it is not easy to hit upon the best of all plans the first time around.

I have gone through these frustrations a couple of times, as must be familiar to many who are on their second or third layout. Having filled all allowable right-of-way with

track, I decided to replace a building that had been built into place, only to find I had to demolish the foundation, move the track, and generally wreck the scenery. This discouraged any similar moves until I was absolutely sure of the results.

About this time, I decided to fit each building in place with the idea that it could be removed easily—like the pieces of a picture puzzle. I soon realized that like the picture puzzle whose pieces are unique, my buildings could be removed, but not exchanged, as very few are the same size or shape base and all looked funny when blended into the ground where another belonged. Another good idea shot down.

What followed was an attempt to make standard size modular bases which would plug in to the layout interchangeably. A single size seemed to be too restrictive. What was better was three bases that were multiples of each other. Size A was only large enough for the smallest buildings, such as the water tank, coaling tower etc. Size B was twice as long as an A, but the same width, since I was interested in stretching these out along the sidings. The B bases were fit to warehouses, the depots, small factories, and that sort of thing. I have one factory that straddles a track, and is as long as the B, so I used two B bases side by side with a track width between them; this is size C. Other possibilities are two B's end-to-end, side by

The Ultimate Module?

A modular railroad composed of smaller modules/**Joseph Pontius**



A modular railroad need not be without spectacular scenery, as is evidenced by the photo of the steam locomotive and its train (left) working its way through Arizona-style redrock scenery. While it is not apparent, the buildings are set on removable bases that allow the town to be changed. Whole sections of the railroad can be replaced to change the track arrangement, making the layout modular within itself, as well modular and portable in its overall scheme.

PHOTOS: THE AUTHOR



side, or placed in an L-shape. It is possible to fill all the holes in the layout with A size buildings and a combination of empty lots, but a variety of sizes makes it more interesting, I think.

A town never has enough houses for all the little people you want to populate it. Even allowing that some of them live in the hotels and rooming houses, sleep in the back of the stores, or upstairs over the barber shop, there should still be some houses, complete with yards, chicken coops, outhouses, shade trees, picket fences and all the other details that give them that homey touch.

I deviated from my A-B-C sizes, as the proportions of my industrial lots seemed wrong for residential property, and although the scale size is less than would be prototypical, I am able to fit more houses into the same space and the look is more like what I want than actually modeling a housing development.

When I began to model the commercial property along Main Street, I used the residential lots as the basic size and doubled them into the length of a block of stores along it. Now, if you have been following the logic so far, you must see the possibilities of switching downtown buildings with the homes. Two houses will replace one side of a block of stores, one for one with the general store or gas station and the pottery factory and the vacant lot farther down Main.

Building the town from a bare board involved planning the track carefully so that the right spacing between sidings was available, while at the same time keeping it practical for convenience and access. (Is the coal- ing station too close to the passenger station or Mrs. O'Grady's wash line? Can a truck get to the loading docks without parking in the road? Would a forge and foundry be appropriate next to Banker Dudley's big white house? Can a passenger train stop at the

station without fouling the main line?) If you have built a layout you've probably gone over this before, but with the modular concept, some new combinations could come up that would look silly. Now is the time to weed them out.

At best, the number of combinations are limited, and there are additional problems that plug-in buildings won't cure. I get tired of the same switching patterns, and nothing will do but to rework the whole mess. Using the same modular concept, I built the town on a 2'x4' block of 1/2" plywood and plugged it into a hole in the layout. Now the whole board can be replaced with another module of the same size. This allows me to build different towns or even an industrial complex, a sawmill, something without houses, depots or the usual railroad family of structures.

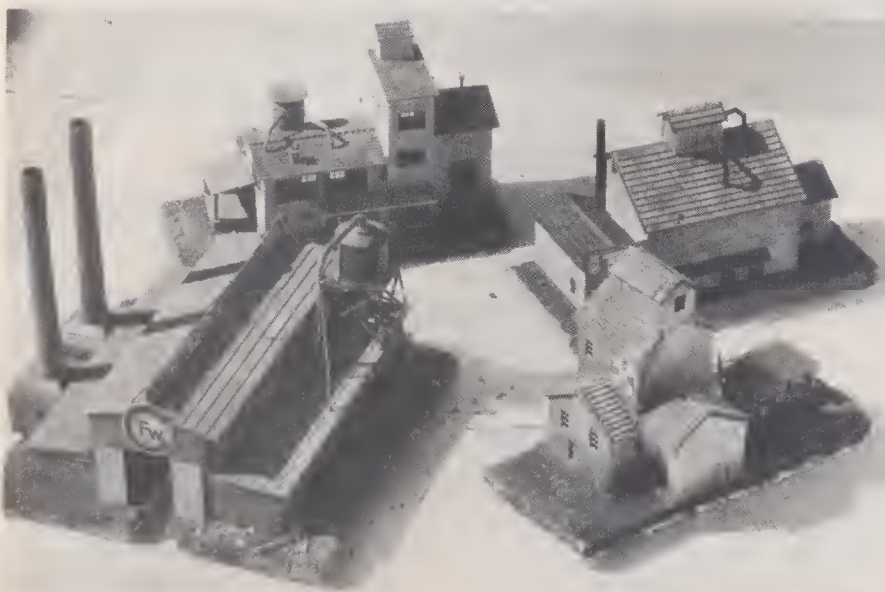
On the first town module, I incorporated another gimmick: rotational symmetry that allows the module to be turned 180° and still fit all the roads and track of the layout. The same set of buildings look like a new plan when fitted into the valley the opposite way. Even the switching is different when worked from the other end. Care must be taken to align the tracks exactly if this end-for-end swap is to be made, but this is one of the challenges that makes the work interesting. The technique that I found to be effective was to build one approach and fit that end of the removable town base. Then rotate the base 180° and match the second approach to the completed town base end, and lastly match the second town base track to the first completed approach. The same is done for the reverse loop and its matching sidings. The town base should be perfectly square, cornered for an exact fit in its hole in the main board in both positions.

When pouring the Mountains-in-Minutes foam around the town module, plastic wrap or trash bag material was folded over the end of the plywood board and the foam allowed to fit the contours. The poly-wrap peels right off. The board is rotated and the opposite end is foamed for a perfect fit. The plug top for the mountain was made of foam and molded into the hole for an exact fit using this method. Some kind of handles will be needed to remove these plugs as the scenery won't stand much prying. I use large screw eyes with holes located under two building foundations. The mountain top has a lift rock, a solid spot bare of trees and breakable details.

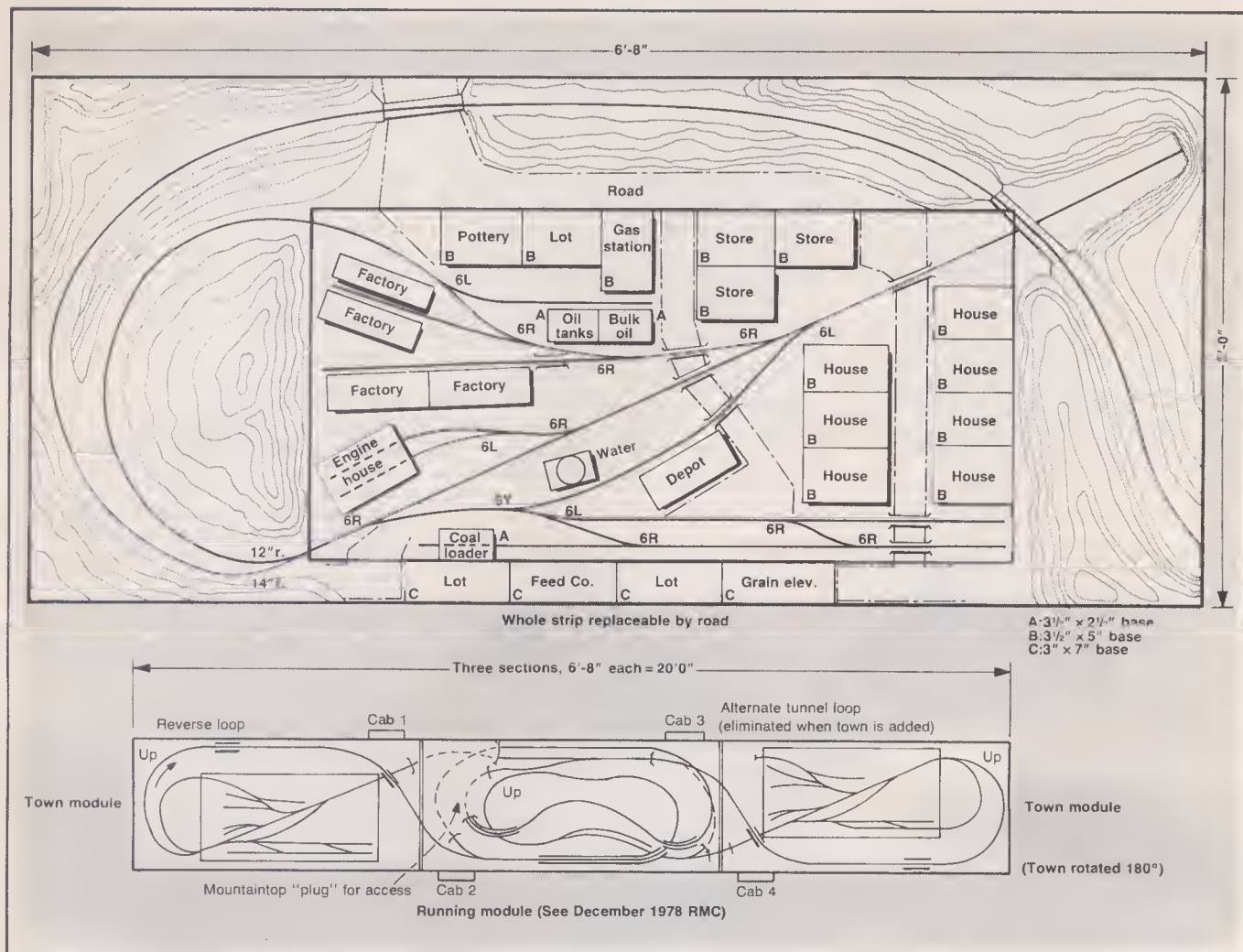
I didn't use switch machines as all turnouts are within reach. Access beneath the board requires removal, but could be done for wiring repairs. I honor the brakeman who had to do a lot of walking between turnouts, riding a car ladder when he could. All switches are hand thrown.

So far I have described how buildings could be treated as interchangeable modules, and how the assembled town could be rotated or replaced with a similar 2'x4' module, but the best part of the plan involves still another modular concept.

The December 1978 RMC told the story of my "N Scale Layout on a Door", where I used a hollow-core house door as the base framework for a mountain layout. This door was 3'-0"x6'-8" and had three loops of track winding through mountains, a long bridge and plenty of tunnels. When I built that trackplan, it was for the joy of watching



The Ultimate Module?

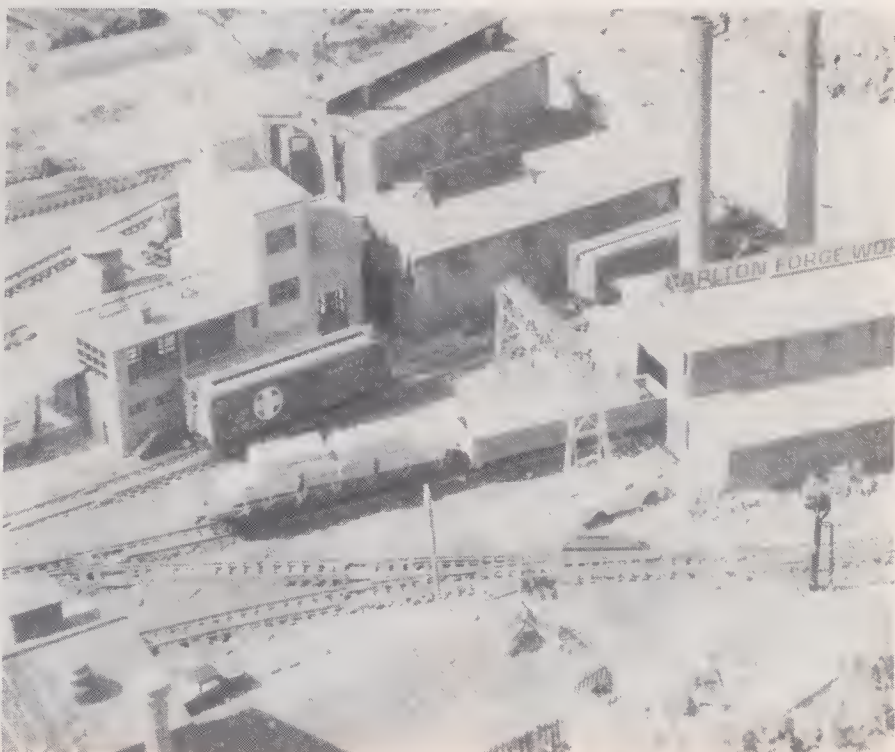


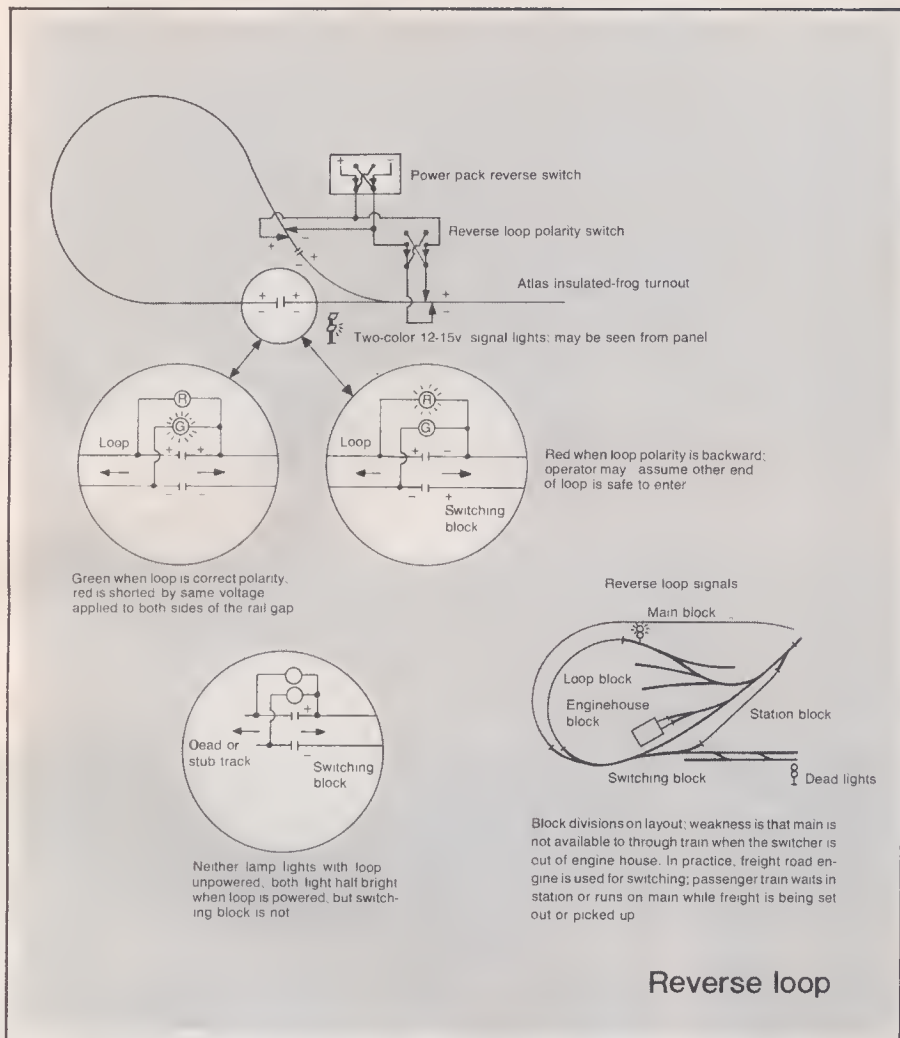
trains run through beautiful scenery.

My newest door fits the end of the running door and becomes the next larger module. Either end of the mountain layout can be extended in this way. Although I have built for only one end, the next step will be to match the remaining end for the town door. My wish would be to build three modules, but my garage right-of-way is restricted to two door-lengths. With the interchangeability, I still have a lot of plans I can work into the same space.

I rerouted about three feet of track on the mountain module and can still run loops for time and scenery runs. A plug top was added to the mountain for access to the tunnels (Plastic foam is good for this because it is so light). One benefit of this rework was to reduce my 4% grade to 1%, lengthening my trains and reducing derailments.

The new module is built out of the same size door (3'-0"x6'-8") and uses similar construction. I built pillar and ramp structures out from the 2'x4' town hole to the bridges and tunnels as before, using plywood and balsa strips two inches wide. I prefer balsa, although plywood is cheaper, as it takes nails well, cuts and sands easily, and is forgiving when I change a radius or grade or fit a bridge. I stuffed the mountains (or areas I intended for mountains) with Styrofoam®





RAILROAD MODEL CRAFTSMAN

chunks and covered these lumps with Mountains-In-Minutes foam, applied with a latex mold of a rock pattern. The Mountain-In-Minutes people have some blocks of foam outcropping that work quite well when cut into sections and fit into the hills and road cuts. There is one block called a multi-scale embankment that was most suitable for N scale. I made rubber molds from it, which was an improvement over my former rock molds, and cut parts of it for feature outcroppings around the mountains. While the foam mountains are more expensive than plaster and do not carve as well, I think the lightness of the foam, its flexibility under stress, and the finished appearance leaves plaster far behind when used on portable scenery.

Everyone seems to have his own private joke hidden somewhere in their layout. Mine came about by accident, but when my son, Mark, pointed it out, it was too good to pass up. Near one corner, where the expanding foam had pushed up the edge of the mountain, we discovered a network of stalactites and stalagmites along the outer edge of the board. The cavity was about 15 scale feet high and extended as far back into the mountain as you could see. We wired two small lights back in the cave and included some little people taking the tour. A billboard sign in town says, "Visit Indian Caverns". It has nothing to do with railroading, but a lot to do with enjoying the fun of modeling.

I included a reverse loop in this layout, but found that about 50% of the time I had the loop switched wrong. Being part of the switching pattern, the loop was not always entered from the same end, and the polarity of the tracks was usually in doubt. The solution was to take an operating two-color signal and wire it across the insulating rail joiners in such a way that the correct polarity shows a green light, while a mismatch shows red. I only indicate one end of the loop, knowing the other will be the opposite polarity. It isn't a prototype use of signals, but a disguised running aid equivalent to railer roadcrossings. The lights are track powered, so also indicate the difference between a stalled engine and an unpowered track without taking my eyes off the train. Mostly, it is an effective warning of impending disaster before hitting that reversed polarity track.

Several of my best-loved critics say I made my rocks too red. I painted my cliffs with rust-red auto undercoat spray paint, blended shadows with burnt sienna-tinted vinyl paint, and they do look quite red. I wanted the mountains to look like the red rocks of western Arizona. I think it might be another Oak Creek Canyon, or the red rocks around Sedona, Arizona, but have stopped short of giving the layout an actual place name. I think Red Bluff might be the right name for the town.

I felt the plastic hillsides looked a bit too slick and clean, so on most of the ridges and up the gullies, I glued crushed red brick dust. House bricks break much like sandstone, and I used all sizes from dust to boulders, stuck down with watery white glue as is done with ballast. I think I have used about a brick and a half, and I like the looks so well I have begun to use it on the running module.

My backgrounds are straight out of the pages of *Arizona Highways Magazine*. They have excellent scenes, and trying to live up to

The Ultimate Module?

their quality not only improves my efforts, but gives my critics evidence that my rocks are just about the right shade of red after all.

The vegetation suggested by the Arizona scenery includes pine trees at the upper elevations, junipers on the bluffs and cliffs, and in the dry wash, mesquite bushes and other desert plants. Maybe a few cottonwood trees and scrub oaks would look good in an autumn diorama, and in town almost anything goes. Remember this is a dry and thirsty land, so one must go easy on the lichen and grass. Here is another place where *Arizona Highways Magazine* excels as a reference for proper scenery; its range could inspire a variety of modeling scenes.

My buildings are anything that strikes my fancy. I have built a variety of kits (plastic, wood, and metal), and scratchbuilt copies of kits or ideas shown in *RAILROAD MODEL CRAFTSMAN* and *Model Railroader*. Most of my kits are hybrids, and I can't resist the temptation to try a different roof or add Campbell's shingles or corrugated aluminum, or add a loading dock. One of my habits in visiting another modeler's layout is to see how many buildings I can identify by brand or name. It is pleasing to note how many variations inventive minds can produce from

a common source of materials.

There are a number of ways to operate using this module concept. The obvious one is to complete both end units with the mountain diorama between them and run trains point to point or around the loop. A sacrifice is made when only one town is completed, but an out and back loop is still fun to run, converting the departing train mentally or by waybill to an arriving train after a satisfactory number of loops have been run through the mountains. If you need the added illusion, the industries could be swapped by the time the train comes back.

The town that I built has two interesting switching areas; one looks a lot like John Allen's timesaver. The parallel sidings become a team track, industrial sidings, or an interchange track. The dummy caved-in tunnel at the end could be varied for an access to quarry or a mine. The S curve and sidings in the opposite corner have the best switching pattern utilized when rotated to include the reverse loop. Depending upon the direction of a train's arrival and the amount of traffic through the town, some switching patterns can change from easy to impossible with minor changes in conditions. By using the modular concept, the best switching pat-

terns can be collected and built, then alternated to suit your mood or modified to challenge your growing abilities.

There are a few regrets, or lessons, that I learned and would use the next time around. Some of these are probably obvious to the old-timers, but experience comes from making mistakes.

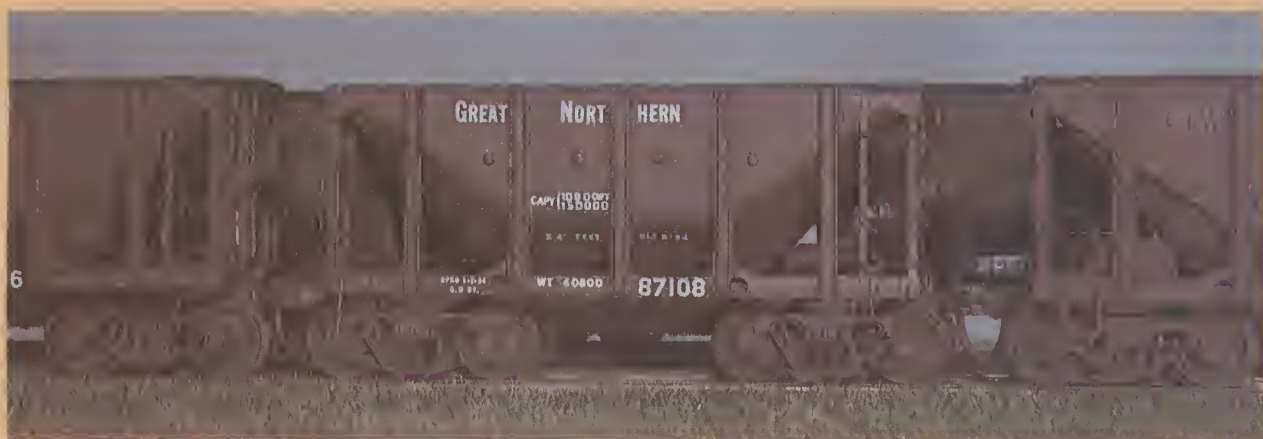
The curved switch was difficult to get right. Each branch approaches a different grade for one thing; for another, if the single track approach from the town isn't lined up exactly, I get derailed cars. This is the location of one of the removable rail sections, and since it is not glued down, it is a natural for trouble. I think this might be engineered to eliminate these problems. Usually S curves are bad news, but a careful choice of turnouts and a straight car length of track between the curves is essential for the switching patterns that I built.

Finally, I wonder about my choice of sizes for the building bases. The two basic dimensions of $3\frac{1}{2}" \times 5"$ and $3" \times 7"$ could have more in common; perhaps $3\frac{1}{2}" \times 7\frac{1}{2}"$ would have been a better choice, then three $5"$ units would replace two $7\frac{1}{2}"$ ones. It isn't much, but in this modular business every little bit helps. ☞



This pairing of photos, taken from opposite ends, but of the same area on the layout, shows how the structure base modules fit within the layout scenery. The

smallest modules are equal to two medium modules or three large structure modules. Only a few buildings are absolutely permanent.



PROTOFILE 17:

as modeled in HO scale/
Staffan Ehnbon

GN 87000-series ore cars

In 1924 the Bethlehem Steel Co. built the 87000-87249 series steel ore cars for the Great Northern. This was just one of many series of steel ore cars on the GN, most of which had different details. The 87000 series, however, seems to be the series which is closest to a commercially-available model: the MDC tapered side ore car. The model requires some reworking of details.

To start with, the areas outlined in white in the accompanying construction photos need to be removed. The flange along the top of the sides and ends is sanded off almost completely by turning the car body upside down on a sheet of sand paper on a flat surface and moving the car body back and forth. A sharp, pointed knife is used to cut the four small steam spear opening lids from each side. Save these for reuse later. The side rib closest to the ends is removed completely. At the left end, the one grab iron goes, along with the side rib. At the right end,

the left ladder riser and all the grab irons are removed, leaving the corner post in place. Corner steps are also removed. All ladder grab irons, end sill grab irons and the three additional assorted grab irons on the ends are also removed. The brake gear box is cut back until even with the bracket behind it. Then the rod going down from the gear box to the brake platform and another one going from the platform to the end sill are cut off. The bottom edge of the side sheets should be cut back so that the three angled surfaces are extended all the way to the front of the side sheets. The angle between the side sheets and the angular sheets is then rounded to a smooth curve.

Now reconstruction begins by cementing 7'-4" lengths of .010"x.020" (1x2mm) brass or plastic channel in place of the four removed side ribs. Angles, approximately 12"x18", made from very thin sheet styrene, are cemented to the top corners. A 7'-0" strip of Evergreen Scale

Models 1"x3" HO scale styrene strip (No. 8103) is cemented on in the location of the old ladder riser. The small opening lids are reattached at a level about 2'-6" down from the top of the sides. Use photos as a guide for locations. Lengths of .012" (0.3mm) brass wire 21" long are glued in place as grab irons on the side and end ladders. A 26" length of the same wire is glued to the end braces above the right end of the brake platform. The grab irons on the end sill are made from bending the wire into a "U" about twelve inches wide. The holes for these grab irons are drilled closer to the poling pockets than the original ones were. A brake wheel and gear box assembly is installed on the B end with the chain extending through a hole drilled in the brake platform. A piece of the 0.3 mm wire continues the line from the chain at the platform down into a hole drilled into the top of the end sill. The AB valve seems to be mounted behind the right riser of the end ladder, just below

GN 87000-series ore car

the level of the brake platform. It can be mounted there by means of a piece of wire that extends from a hole through the ladder riser and on into the AB valve casting. There is a grab that goes around the corner at the top of the ladders. Presumably, there is also an approximately 4'-6" wide grab along the center of the top edge of the end. There are two horizontal grab irons between the corner post and the channel side rib at the left end of the side. These and the perpendicular grab down the end face of the corner post can be made from one piece of wire formed into a "U" about 2'-3" wide and pushed through holes drilled through the corner posts 2'-0" and 4'-3" above the bottom of the end sill. The shanks of the "U" end behind the channel side rib.

The corner steps can be made from thin strips of brass formed into a twelve-inch wide "U" with the ends twisted 90 degrees to attach to the side sill. The small z-shaped step is easily soldered in place. If

soldering is a problem, short lengths of Walther's N scale ladder (part No. 947-627) can be used.

The underbody was converted for a close-coupled appearance of the cars. This was accomplished by cutting back the coupler to just in front of the small ridge on the top of the pocket. A slot wide enough for the shank of an MKD 5 coupler is filed through the center boss. The rear edge of the coupler shank may need some trimming to fit behind the center boss within the coupler pocket. The coupler becomes rigidly mounted this way, which does not matter, as the cars are so short. The coupler pocket cover is cut back and glued in place.

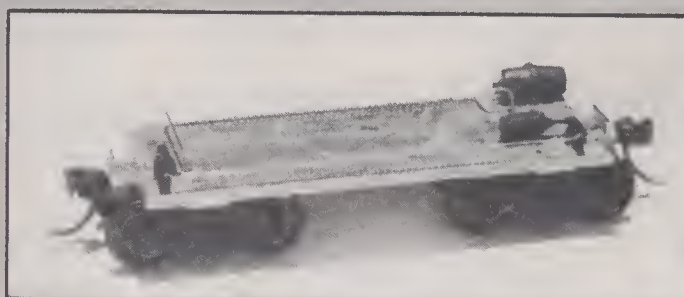
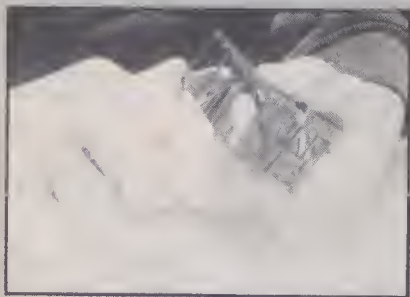
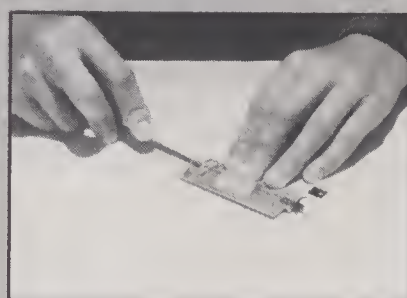
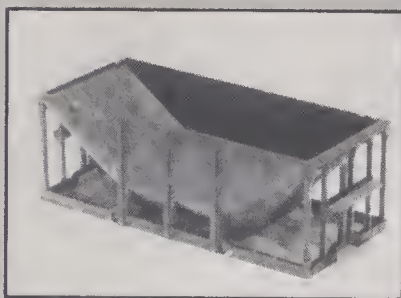
The brake cylinder is placed straight behind the rod from the brake wheel and as close to the end slope sheet of the hopper body as possible. A brake lever connects the brake cylinder with a rod that runs the length of the car visible behind the side ribs. This rod ends at another

lever that presumably transfers the braking action through the car deck to the truck below. A train line runs in a similar location along the other side of the car, piercing the car deck at locations about three feet behind where brake hoses are typically mounted. The brake reservoir is mounted on the deck as far into the right corner of the B end as possible. Kadec Andrews trucks look right for this car.

The car, underbody and trucks are painted box car red. Champion set No. HC-503 includes the basic lettering. The 1080 cu. ft. capacity, 40300 weight and 1924 built date is at variance with the Champion set, but the figures can be juggled for a better approximation of the prototype, if this is a concern. The words "copy" and "cu. ft." make this group of lettering from the Champion set too wide to fit between two side ribs. Shorter words were taken from Walther's data sets to squeeze this lettering group in place.



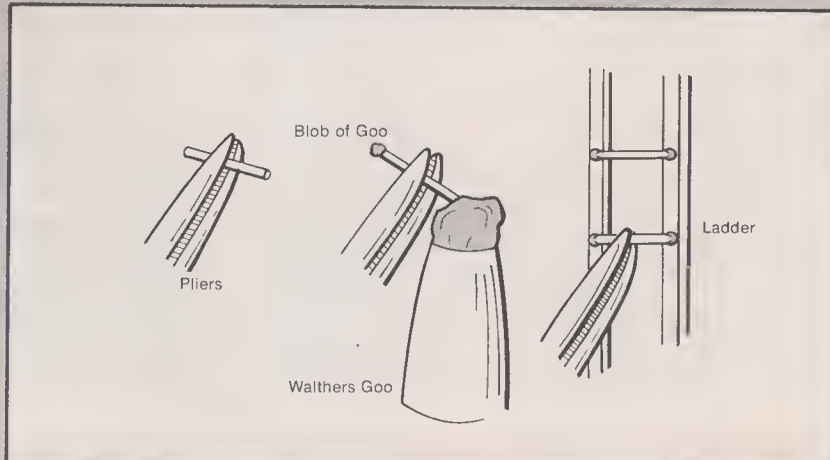
PHOTOS THE AUTHOR

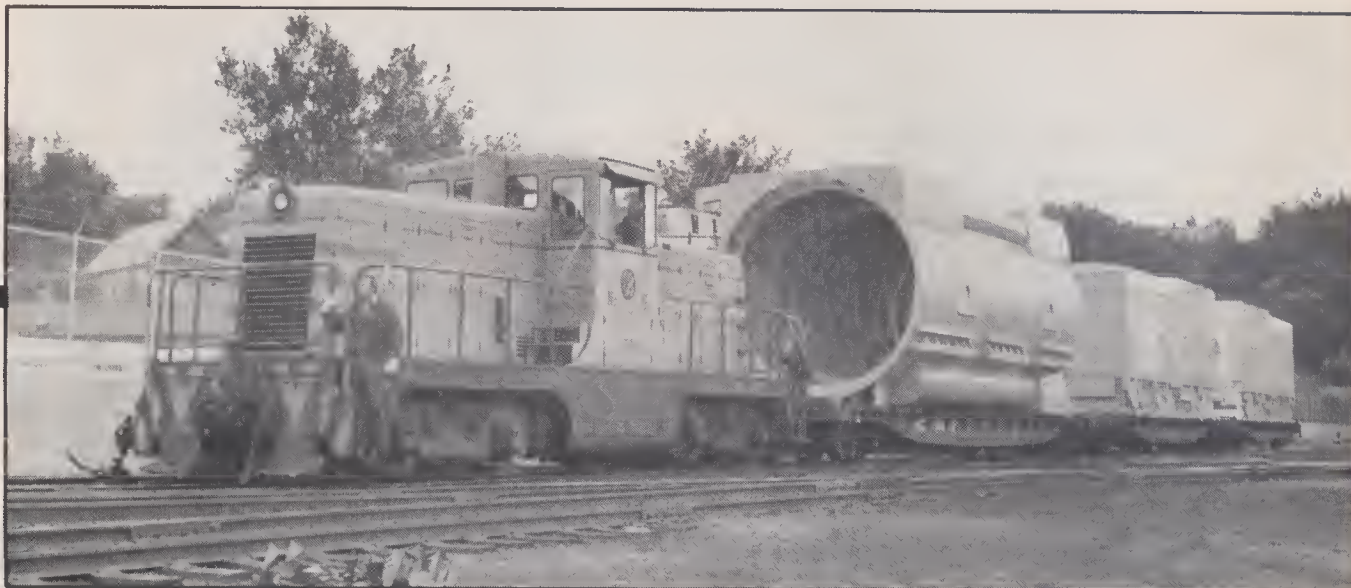


The areas to be removed to correct the shape of the Model Die Casting car are marked in white in these photos. This adjusts the taper of the body panels and is done by carving, sanding and filing. The "steam spear" openings on the sides, for loosening frozen ore, are also removed (**below**); they will be replaced on the model, as will the grab irons.

The body is shown before the new parts are installed at the **top left**. A small file is used to clear the coupler mounting pocket for a Kadec coupler as shown at the **top, right**. New piping and the brake gear is then added to the cast-metal MDC underframe as shown in the photo **above**.

ROLLING STOCK





PHOTOS COURTESY OF GE

GE's Schenectady Industrial Railroad

This railroad handles a variety of chores at GE's Schenectady, N.Y.
and Nott Street plants/**Ken Nelson**

There is a hissing sound of exhausting air as the engineer releases the independent brake and gently opens the throttle on engine 20, a General Electric 85-ton industrial switcher. Under the watchful eye of the conductor and brakeman, the 600-horsepower locomotive begins to move 1,315,700 pounds. The single car being handled is GEX 40010, a 20-axle Schnable car borrowed from the Pittsfield General Electric Plant, and the load is a new generator stator destined for delivery to Arizona Nuclear Power Company in Arlington, Arizona. For the next 45 minutes or so, the crew will be busy carefully transporting this load from the huge turbine-generator

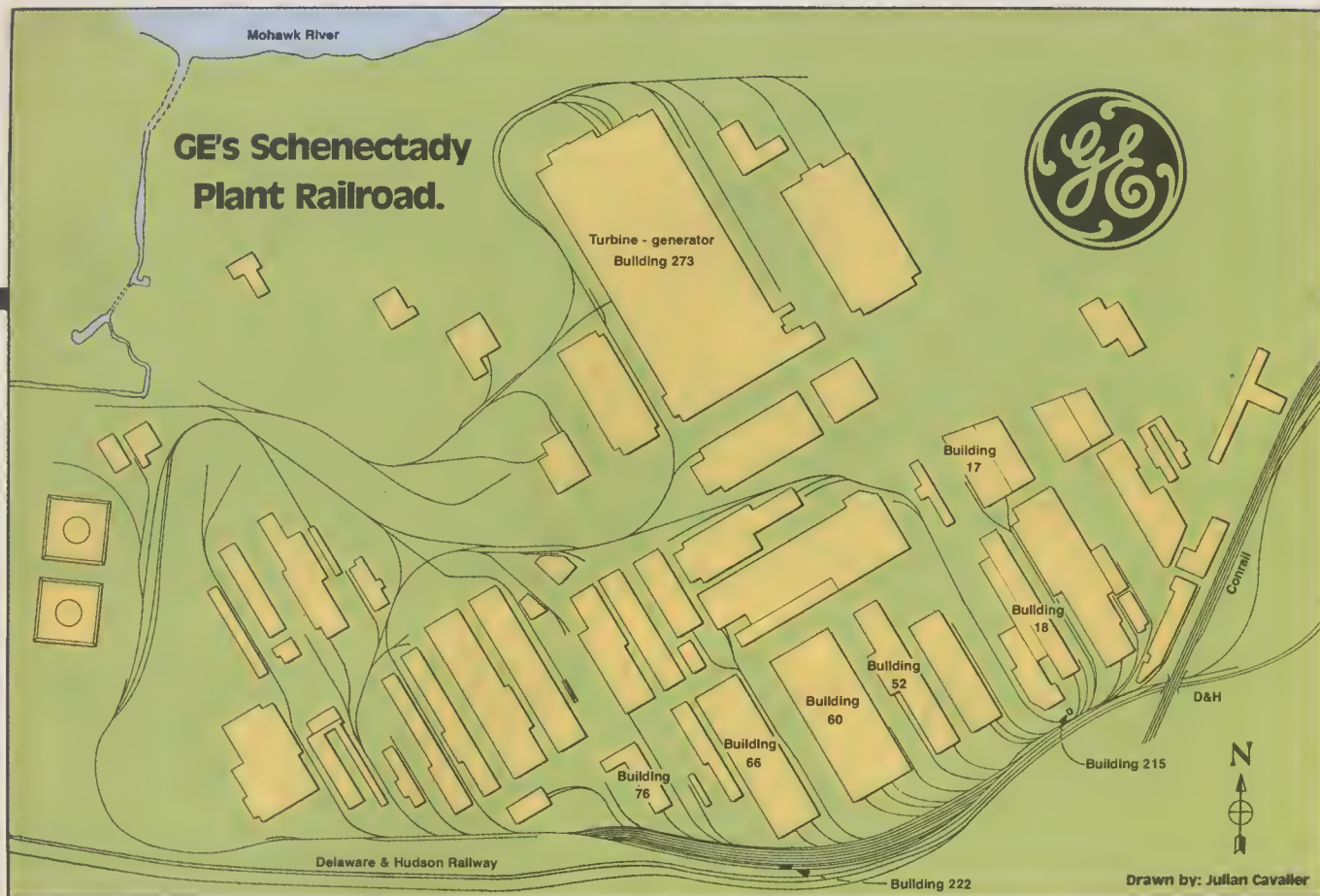
Building 273 to the switching yard on the opposite side of the General Electric Schenectady Plant.

Officially known as the Railroad Unit of the Schenectady Utilities Operation, the Schenectady G.E. Industrial Railroad is a privately owned and operated rail system that actually comprises two separate, non-connected subdivisions. The principal portion of the operation is performed on 16 miles of track and 126 switches, 25% of which are laid with 115 pound rail. Three locomotives are used to provide rail service to the many product departments of the Schenectady Plant for moving direct shipments from outside suppliers and

satellite General Electric plants to department locations and handling heavy product movement within the Schenectady Plant to keep production at the most efficient levels. Outside rail connection is provided by Conrail and the Delaware and Hudson Railroads, both of which service the Schenectady Plant. In addition, there is also occasional rail service to the Nott Street Plant, about two miles northeast, where machining and some turbine assembly is performed. This plant is one of the main buildings of the former American Locomotive Company (Alco), and since leasing the facility, G.E. has not only left the majority of the tracks that were previously used in loco-



GE's Schenectady Industrial Railroad



motive production, but still utilizes the former Alco number 5 switcher. Since the only rail connection between the two plants is via Conrail (a former D&H connection to the ex-Alco plant has been removed), the crew, when needed, travels to Nott Street via pick-up truck, does their work, and then returns.

Presently the railroad operates with two overlapping shifts, each with a three-man crew. The first crew goes on duty at 7:00 a.m. and spots the incoming cars for unloading and some empty cars to be loaded. The peak period is between the hours of 12:30 and 3:30 p.m. when loaded cars are pulled out and re-spots are made. Two crews are needed to make the necessary moves in a timely manner. Between 3:30 and 9:00 p.m., the second crew weighs outbound cars and places them on an appropriate track in the switching yard where they await movement by the D&H or Conrail.

Some years ago, coal trains of up to 100 hoppers would arrive at the plant, and one crew using one or two engines, would spend an entire shift spotting and unloading the cars at the power plant. However, a change to oil has cancelled the need for this operation. Although rail facilities are available for emergency unloading of oil, the fuel is generally shipped by truck from nearby Albany. Today the items most often moved by the railroad are flat cars of lumber, turbines, or motors; tank cars of liquids (paint and varnish); covered hoppers of foundry sand; and box cars of general merchandise.

In addition to the Alco, the Schenectady

Utilities Operation lists three locomotives in its present fleet. Units 20 and 21 have both been purchased within the last five years and are each bright yellow, 85-ton, center cab units with twin Cummings engines which develop 600 horsepower. Number 19, built in 1947, is used whenever one of the other two units is in for service.

In addition to its locomotive fleet, Schenectady G.E. also operates two 104-foot depressed center flat cars (81021 and 81022), three very large depressed center flat cars of over 150-feet each (80000, 80002, and 80003) for interchange movement of large turbine generators, and a caboose (80004) purchased used from the Lehigh Valley and completely reconditioned for use by the crew which travels in special trains with oversize loads which may require shifting enroute. Noninterchange equipment includes a group of over 70 flat cars and 13 gondolas used for in-plant movement of lumber, skids, scrap, and other such loads. Moreover, the Gas Turbine division owns some 17 flat cars and the Steam Turbine Generator Department operates 10 of its own.

Let's climb aboard engine 20, tour part of the railroad, and see what is involved in some typical operations. Railroad foreman Art Kaszubski leads us from Building 215, the center of rail operations for SUO and introduces us to the three man crew. We find ourselves on track 1 of the switching yard. On our right, tracks switch out in curves sometimes reaching as sharp as 22 degrees to serve var-

ious buildings and shops, while to our left are eight other parallel tracks. Track 6 is generally reserved for the empties which are brought in from interchange. Track 8 is the scale track and is used to store cars waiting to be weighed, while track 9, because of its wider spacing, is used to hold oversize loads. Other tracks are used as needed. As we travel west on track 1, we pass the cripple track on our left, where we find engines 17 and 18 parked in storage. Looking again to our right, we see the so-called horn tracks which curve around to serve the other side of the plant. We now are traveling the back track and climbing a 4% grade. In the days of the coal trains, only about two or three cars could be handled at a time on this grade. As we circle around the west end of the plant, we pass the tank farm where oil is stored for the powerhouse. Traveling close behind us is the night crew which has just come on duty. They are preparing to enter the track serving the foundry in order to re-spot a sand car. At one time, tracks were to have left this side of the plant to connect with Rotterdam Junction, several miles to the west, but the Depression changed all that and the project never did come to fruition.

A call comes over the radio to move a G.E. flat from Building 18 to Building 66. This completed, we next couple to a cut of flats loaded with various skids (a wooden framework fabricated to support different types of loads). The crew experiences some difficulty in making a coupling on the sharp curves, but the job is fulfilled and we move on. Our engi-



neer explains that most moves today are one or two cars at a time, whereas many years ago, it was not unusual to handle ten or more at once. The automatic brake (train air) is used with any loads over 100 tons; otherwise its all done with the independent. Again the radio cracks and we are asked to move a flat from "52 platform track." However when we arrive, the conductor discovers loose blocking on the car. We can't move that one until the blocking is arranged properly and so we're off to yet another move. We remove a gondola load of scrap from Building 17 and replace it with an empty gon. As we back down 17 track with the gon, we notice a Conrail U23B waiting to enter the G.E. property for its afternoon pick-up and delivery. Upon our return, the Conrail cars are blocking the runaround track, so we fly by the loaded gon of scrap into track 8 where it will later be weighed. As a Delaware and Hudson northbound freight rolls by just

outside the fence, our comparatively small engine moves slowly forward to Building 60, door No. 16, and couples onto a D&H heavy-duty depressed center flat, number 16159, with a large motor ready for shipment. We weave our way through the yard to track 8 and weigh the load plus the gondola of scrap at the scale house. Now the motor is returned to just outside Building 60 where it will await the necessary paperwork prior to being shipped. After throwing the turnout, the conductor signals a go-ahead, and we proceed to pick up another flat car of skids, take it to 60-16 (Building 60, door 16, where we earlier picked up the D&H flat), wait five minutes for it to be unloaded, and return the now empty flat to Building 76.

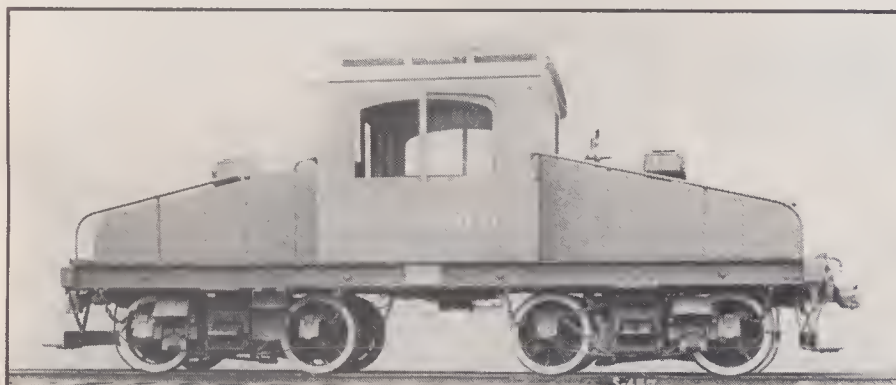
Al Van Eps, who does most of the clerical work in Building 215, explains that SUO has seen basically three types of power since its beginning in the late 1800's. It is believed that

locomotives 1 and 2 may have been saddle tank steamers. Numbers 3 to 12 were electrics which operated on overhead wire, collecting their power from a rather unique bow pantograph developed by G.E. Alco did the body work for many of these units (number 6-10), while G.E. naturally did the electrical work. When tracks extended beyond the end of the wire, such as the sand track inside the foundry, an extension cord was fed out the back of the engine by a brakeman. Numbers 11 and 12 had the ability to switch to battery power for short periods of time in order to avoid such problems. Skipping the number 13, the first diesel, purchased in the early 1940's, was assigned the number 14. Soon afterward, the overhead wire was removed and the diesel has been king ever since. In addition, there was at one time a narrow gauge rail system which was used for heavy material movement. This has been replaced for the most part by an internal trucking system.

Unfortunately for the railfan and modeler, there are very few spots from which the G.E. rail operation can be viewed. One can get a somewhat distant view of the switching yard from some of the side roads just off Broadway, and an excellent view of the outside of the giant turbine-generator building while passing on Interstate 890. Cameras are forbidden on the property.

The future of the rail operation looks bright. Although many of General Electric's products are shipped by truck or piggyback, there is still a substantial amount of traffic which is too large and too heavy to travel on anything but the railroad. The Railroad Unit of the Schenectady Utilities Operation should continue to play an important role for many years to come. I would like to acknowledge the excellent cooperation I received from the General Electric Company and thank them for the help which they gave me in researching and writing this article. Special thanks go to Mr. Mike Ross, Mr. Robert Czub, Mr. Jack Mikus, Mr. Al Van Eps, and Mr. Art Kaszubski. G.E. was also kind enough to provide photos. ☐

From the turn of the century until the early 1940's, the switching chores were handled by electric freight motors. Both the view **above** (which dates from the 1920's) and the photo of No. 10, **below**, show the unique bow style pantograph developed by General Electric for better contact.



RAILROAD MODEL CRAFTSMAN



Modeling GE's Schenectady Railroad

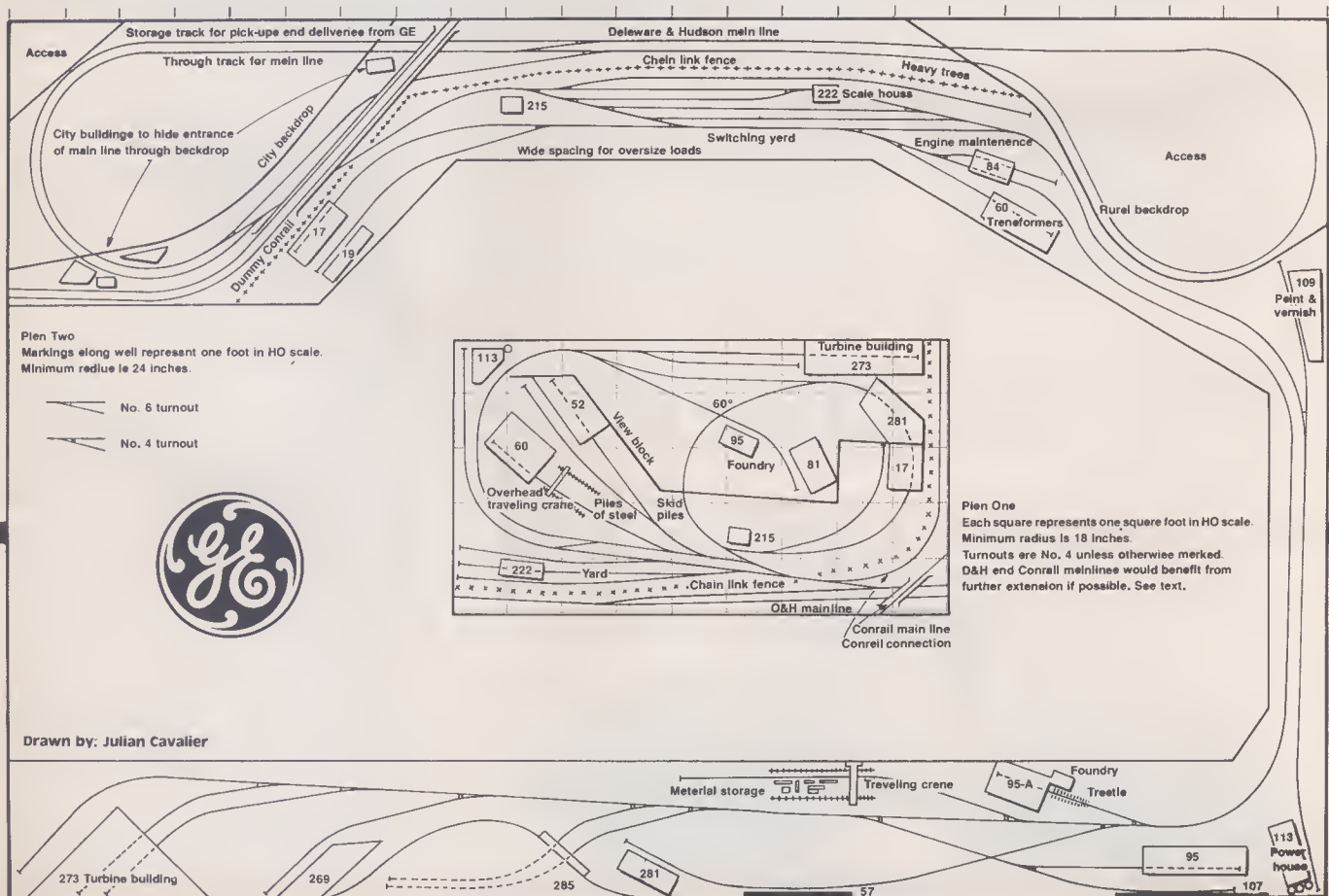
An interesting railroad you can build two ways/**Ken Nelson**

If a model railroader has been in the hobby for a while, he has probably built and operated one or more table-top layouts with an oval or figure eight track plan, become bored with watching the engine chase the caboose around in circles, collected a varied assortment of freight cars and small switch engines, and grown impatient waiting for that "some

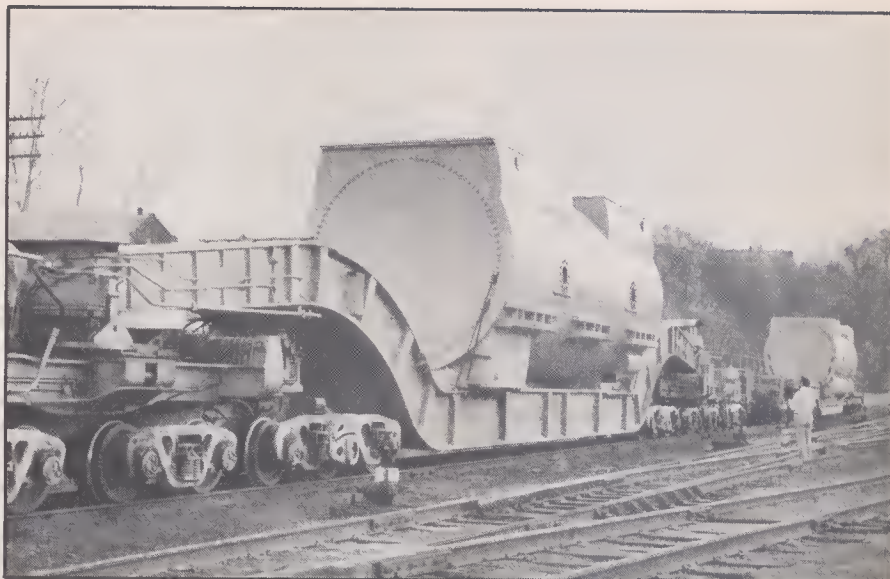
day" when he will have the necessary space to build his dream pike. Such a modeler will find an industrial railroad a blessing with the built in advantages of a variety of operational possibilities in a small space, a logical explanation for the sharp curves and bowl of spaghetti appearance of so many small track plans, and a place to use one or more of the many diesel

switchers and 0-4-0 steam shifters he may have accumulated. The industrial railroad can be built independently, or it can be a major complex on a larger existing or future railroad.

The Schenectady General Electric Industrial Railroad, with its 16 miles of track, several small locomotives, an interchange with



The two aerial photographs (page 66) show an overall view of the plant. The buildings are built from pre-cast concrete and brick. They can be easily kitbashed or scratchbuilt following Wayne Wesolowski's article on casting plaster walls in the September and October 1980 issues of RMC. Large turbines, such as the one pictured here (right), are shipped across the country on these manmouth flat cars. Below (left) is a view of the yard looking west. The scale house (Building 222) can be seen on track eight in the upper lefthand corner of the picture. The engine on the right is working on track one. Looking east from the same spot (below right) the railroad's headquarters, Building 215, can be seen at the end of the ladder track.



two major common carriers, and the use of almost every type of freight car, would seem to serve as an inspiring example of a modern, well-run industrial rail system and a good prototype for modeling. As a bonus, this railroad gives the modeler an opportunity for some very interesting flat car loads, although most will have to be scratch built. This also includes, in some cases, the cars themselves.

Because of the massive size of the G.E. complex, selective compression is a modeling necessity. The two suggested track plans approach this necessity in different ways.

Plan Number One is an island-type plan for a five by nine foot space in HO and could be most easily built on a flat table top. If one wishes to suggest the few grades which are present on the prototype, he could use the cookie-cutter method of slicing out the roadbed for that track with a saber saw, inserting risers under it to bring it to the desired height. Care must be taken, however, not to have a grade where cars will be spotted unless a way is used to prevent their rolling away. There would certainly be nothing wrong with constructing the entire railroad on a level surface.

Plan Number Two is an around-the-wall design for a basement or family room where the center of the room is to be saved for ping-pong, pool, or other activities. In this case, it would be advantageous to raise the D&H main an inch or so above the G.E. property in order to make it more obvious. It need not operate, but continuous operation is possible.

Here is something for a second engineer to do, or an electrical timing device could automatically send a train over the D&H at certain intervals, hiding between trips behind the backdrop. The large road units would contrast well with the small industrial engines.

In the interest of visual variety on both layouts, it might be wise to use code 70 track within the G.E. property, with code 83 or 100 being laid to represent the Delaware and Hudson and Conrail trackage. The railroad main lines should be well ballasted, perhaps with different colors of gray, while the G.E. trackage might be done with cinders, covering most of the ties. On the prototype, the track passing under the Conrail girder bridge and through the gate is a few feet lower than the D&H main and is referred to as the depressed track. This allows for overhead clearance of oversize loads. There are times when the D&H uses this track, instead of the main, in order to get such loads through this area. In the case of the island type plan, if the space is available to continue the D&H and/or the Conrail connection further along the wall or out of sight, it will provide a place to take cars which have

been picked up from G.E.

Scenery for a railroad such as this will consist mostly of buildings and the roads between them. Most, if not all of the buildings, should be of brick and/or cement block construction. Many available kits in HO could be adapted and the scratch builder could have a heyday. What one chooses to put in the various buildings is somewhat optional. Each of the track plans makes some suggestions, based on their approximate location on the prototype. Some structures which you will certainly want to consider include the scale house, the two-story control center (Building 215), kitbashed perhaps from an interlocking tower, the power house with its several tall smoke stacks, the turbine building, the foundry, the locomotive and truck shop, the wire building (be sure to include many spools of wire outside), and perhaps a few which are unidentified so that anything can be taken in or out. One track could serve a traveling overhead crane used to move heavy pieces of steel and machinery. The suggested use of backdrop and low-relief buildings on each of the plans should help to increase the apparent size



Modeling GE's Schenectady Railroad

of the layout, save space, and cut down on the number of complete buildings which must be constructed. Interstate 890 is a very busy highway which touches at least two sides of the G.E. property. If you wish, you could model it almost anywhere on the plan, assuming of course you are using a modern era. The prototype I-890 bridges and the already-elevated Conrail (with Amtrak service) trackage would add an element of height to that end of the plan. It also passes right next to the turbine building.

Careful choice of each of the buildings' functions will permit using a variety of rolling stock, including hopper cars or tank cars (coal or oil for the power house), covered hoppers (foundry sand), gondolas (lumber and scrap metal), flat cars of all sizes (turbines, transformers, wire, motors, lumber, and parts), chemical tank cars (paint and varnish), and box cars (general merchandise). G.E. even owns its own caboose, recently purchased used from the Lehigh Valley and painted yellow with a black roof. It is used by crews accompanying oversize loads and in transit would be coupled directly to one of the large depressed center flat cars. This could be sent out with a flat carrying a generator stator and return later with the empty flat.

Besides the caboose, the General Electric-owned cars include several of their large drop-center flats for shipment of turbines and transformers, many small flats used for transportation of lumber and parts around the property, and so-called white liners. These are mostly box and flat cars lettered for and purchased from other roads which are used for storage or transportation in non-interchange service. They have a white line drawn through the reporting marks and number, but are otherwise unchanged. All other freight cars should be lettered for other roads, with an emphasis

on Penn Central, Conrail, and Delaware and Hudson.

The type of locomotives used to move all of these cars will vary depending upon the era modeled. If one goes back into the turn of the century, saddle tank steamers might be appropriate. From about 1900 to 1940, electric switches with pantographs did the job. Stringing overhead on wood poles should keep you busy, although a few of the electrics had the ability to switch to battery power for a short period of time where overhead was not available. Since the 1940's, diesel power has done the work. The G.E. engines seldom leave the property; a variety of center cabs have been available, especially in HO scale. Pickups and deliveries are made by both the D&H (RS3's and RS11's have both been common in recent years) and Conrail (ex-Penn Central U25B's are the usual motive power).

Wiring the layout could be fairly simple or as elaborate as one wishes. Unless one desires to operate two switch engines simultaneously, the entire industrial area of the railroad could be wired as one section. Selective control turnouts would allow leaving an unused switcher on one of the sidings. Turnouts could be either powered or hand-thrown, but some sort of walkaround control would be advisable in order to properly spot the cars.

An industrial railroad, such as this, would lend itself very well to some system of card order operation. Take a stack of 3"X5" cards and put on them the type of directions that might come over the radio from the control center. (Note: On the prototype, all of the buildings are numbered, as suggested on the plan, and these numbers appear in large numerals on at least one side of the building. This might help visiting engineers understand the operation faster.) Include on the cards such directions as:

Take loaded hoppers to power house (113) and return empties to yard.

Move large flat loaded with turbine from turbine building (273) to scale track.

Switch empty depressed center flat car from yard to turbine building (273). (On the larger plan, specify the track.)

Switch flat car of skids to turbine building (273) for unloading.

Switch flat car loaded with transformers from Building 60 to scale track (222).

Put switch engine in the clear to allow delivery by Conrail (or D&H).

Move any cars that are on the scale track (222) to another yard track.

Move covered hopper of sand to the foundry (95).

Pick up gondola of scrap from Building 17 and replace it with an empty gon.

These are merely suggestions. Make up as many as you can think of, based on the cars and sidings you have available, then shuffle them and start drawing them off the top. If possible, perform the operation. If a car which you are asked to move isn't where it is supposed to be (or hasn't been loaded correctly) discard and draw again. Other prototypically-oriented systems may be developed using the D&H/Conrail interchanges regularly.

Whether you build the industrial railroad as a layout in itself, or as part of a larger system, it will furnish the opportunity to duplicate a large amount of prototype action in a small space, yield something which is not exactly like everyone else's railroad, and perhaps most important, supply a challenge to the modeler's construction and operational abilities.

Caboose 80004 was purchased by GE from the Lehigh Valley Railroad and is used in conjunction with special train movements that involve oversize loads which may require shifting enroute. The inside of the caboose has been completely remodeled and contains all of the comforts of home.



I use what I think of as "sandioramas" for model photography when I want the model to be the focus of attention, yet where I feel the subject's realism will be enhanced by at least the suggestion of a scenic background. Of course, there's no substitute for finely done permanent scenery on a layout or diorama. On the other hand, most model photography looks better with *some* scenery rather than no scenery at all.

One advantage sandioramas do have over layouts and permanent dioramas is that each sandiorama can be arranged to frame the model being photographed to its best advantage. Sandioramas are cheap, require no skill for assembly, and can be put together in minutes.

If you have hesitated to take photos of your models for lack of appropriate settings, give this quick and easy method a try. Besides providing yourself with better model photos,

the experience will probably whet your taste for more advanced scenery construction.


The ingredients are simple: sand, lichen, a piece of track, and some blue posterboard for a "sky" background. Often I also use a short scrap of 2x4 lumber underneath the track (or building) to elevate the model, thereby enhancing the illusion of looking up at the structure or equipment, as we usually do in real life. And I usually keep all but the "sky" in a big, oven-size broiler pan to contain the sand.

The resulting combination suggests the sandy soil and scrub second growth of parts of New England—southern Maine, New Hampshire, and some coastal areas such as Cape Cod, the sort of places my HOn30[®] and HOn3 railroad is supposed to run.

Should your pike belong to different terrain, try a slightly different mix of materials: a few rock castings, sand and a few model

pine trees for the Southwest, a mix of ground foam (instead of sand) and lichen for dense vegetation, and so on. Use a piece of track fastened to Tru-Scale plain roadbed, with permanently bonded ballast, to suggest a Class 1 right-of-way.

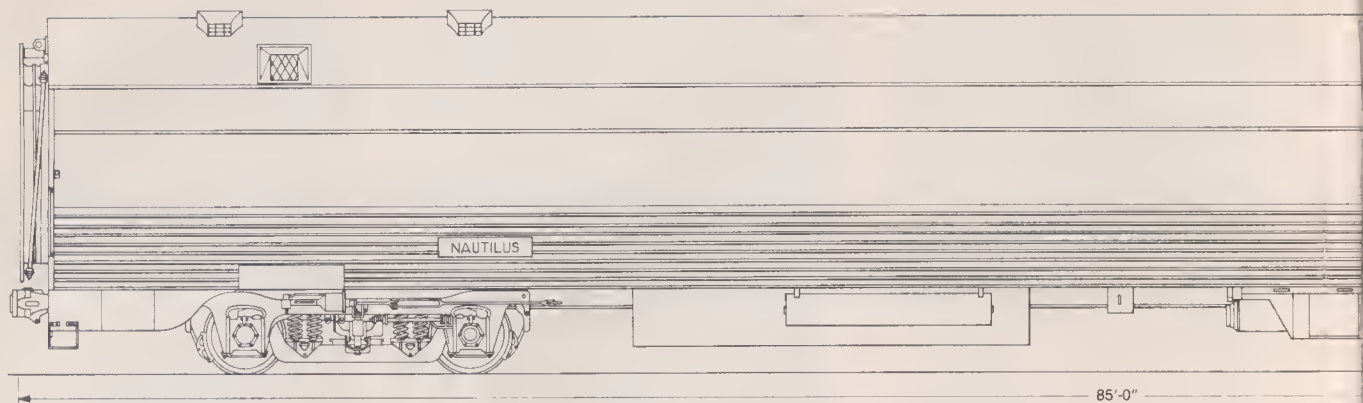
Remember, if you do use sandioramas, that the focal point must be the model. Your sandiorama scenery is more likely to be effective if it is nondescript and *typical*. If you draw attention to it with spectacular or unusual effects, you will probably also draw attention to its sketchy, incomplete detailing.

When using this approach to model photography, also remember to be careful with loose sand. Keep the grit out of locomotive mechanisms and, if you use ocean sand, keep in mind that it will contain salt that will react chemically with nickel-silver rails and driver tires. 

Sandioramas

A quick and inexpensive way to create small scenes for photographing models/**Peter Tuttle**





drawn by Julian Cavaller



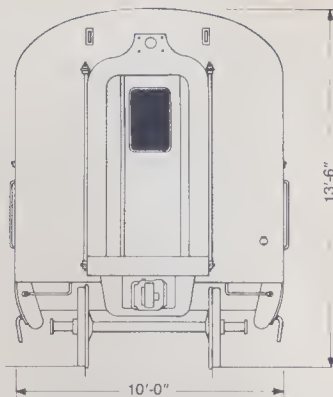
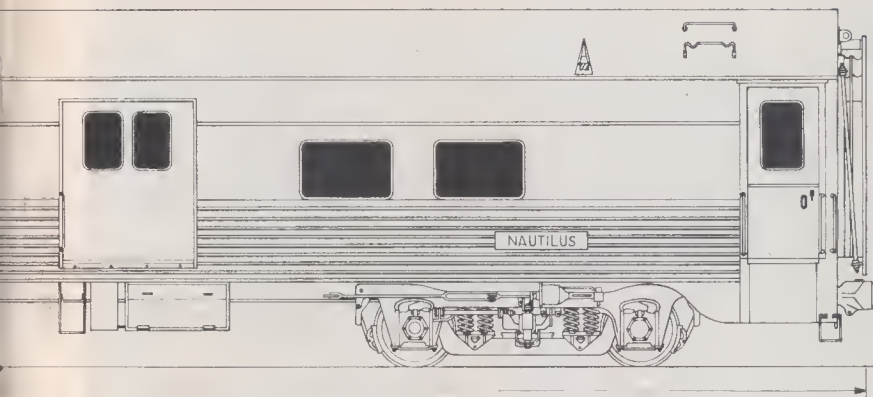
The aquarium car *Nautilus*

JOHN G. SHEDD AQUARIUM

A rebuilt ex-C&EI passenger car was used to carry tropical fish specimens to a museum in Chicago/drawings by **Julian Cavalier**

PHOTOS JOHN G. SHEDD AQUARIUM





HO scale: 3.5mm=1'-0"

The *Nautilus* was built by the Thrall Car Manufacturing Company for the John G. Shedd Aquarium in Chicago to transport live saltwater fish from the coast (usually Florida) inland to the aquarium.

The car had living quarters at one end for six people. This included Pullman berths, a galley, lavatory and storage space. The rest of the car was devoted to carrying saltwater fish. This was done with 16 portable 190-gallon capacity tanks made out of two-inch thick cypress and twenty 30-gallon cans. These tanks were transported from a barge, where the actual collecting was done, to the railroad car for shipment on the next available passenger train to Chicago. Upon arrival in Chicago,

the car was set out on a track just south of Soldier Field on the city's lakefront. Trucks would pick up the tanks and take them to the nearby aquarium. In addition to the tanks, the car also carried special pumps and air compressors, as well as tools and miscellaneous equipment, all of which was needed to insure the safe transportation of the fish.

The *Nautilus* started life as Chicago & Eastern Illinois car No. 304, the *Turkey Run*. It was built in 1946 by Pullman Standard as a baggage-tavern-chair car for service on the *Whippoorwill* between Chicago and Evansville, Indiana. In December of 1952, it was rebuilt into a lunch counter-lounge car and renumbered to 602, apparently to replace the

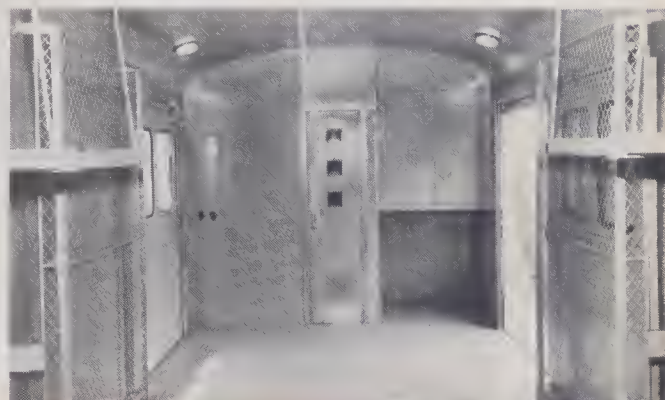
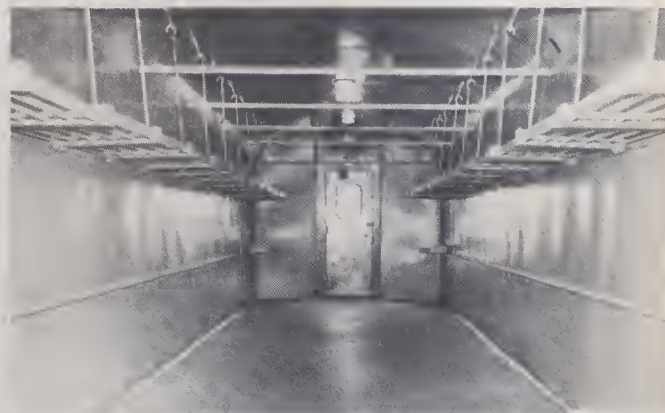
original 602 which had been involved in a wreck earlier in the year. (That car was later rebuilt as No. 506, the *Potawatami Inn*.)

In 1957, the Thrall Car Manufacturing Company converted second 602 into the *Nautilus*. This was the second car of that name used by the John G. Shedd Aquarium. The first car, *Nautilus I*, was retired in 1958 after 28 years of service.

The *Nautilus* was retired in the early 1970's and donated to the Monticello and Sangamon Valley Railway Museum in Monticello, Illinois, where it sits today. Most of the fish are now brought to the aquarium in a specially-designed truck. The more fragile specimens, however, are shipped by air.



The racks hanging from the ceiling were used for tanks and apparatus, while large wooden tanks on the floor carried the larger specimens.





PHOTOS BOB MOHOWSKI





This small structure sits at Foley, Pennsylvania, on the east slope of the B&O's famous Sand Patch Grade. Its reason for being is the well used set of crossover switches in front of it. At one time, when there were more tracks and switches here, there probably was a larger structure. Since the crossovers are now used only during track work periods (which are rather frequent on a heavily trafficked grade such as this) or during an emergency, the railroad has no need to maintain anything more elaborate.

This two by four framed, plywood sheathed, floorless structure provides basic shelter and an area for communications. There does not seem to be any insulation, but the structure looks sturdy and weather tight. Economy and utility rule here. The line pole is constructed of old telephone pole crossarms, and even the lamp fixture appears to have been recycled. Heat is provided by a small coal stove and the fuel pile is at a seasonal low. Spike buckets, track tools and assorted odds and ends are scattered about. A stoop made of flat stones gives a small feel of permanence but seems useless in view of the dirt floor.

Unlike the neighboring, but now gone Western Maryland, which built its temporary structures in such a manner that they could be lifted onto a flat or gondola, this structure seems to be of knock down or prefab construction. A two man crew with a truck could probably dismantle and move the building to another site quite easily.

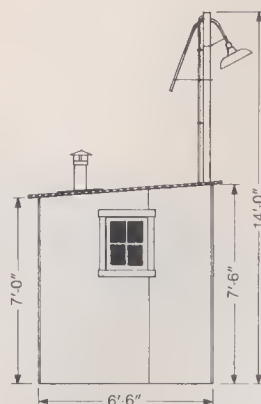
This can make an easy and inexpensive model that could be moved about your layout as your m.o.w. crew does trackwork, or it could be used as a tool shed, watchman's cabin or switchman's shanty. Plain sheet wood could be cut to scale four by eight sheets and backed with stripwood for rigidity.

Window castings are available from a number of manufacturers in all the popular scales. Tarpaper roofing is available commercially or can be simulated by using fine sandpaper or tissue paper—R.M.

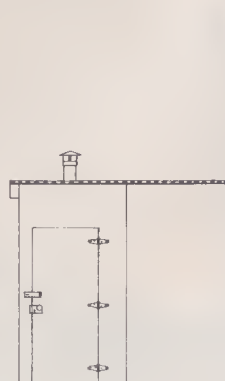
The B&O's *Chicago Trailer Jet* was photographed at Foley, Pennsylvania, in July, 1980, as it passed the temporary operator's shack. Chessie scheme units in the lead (top) were assisted by pushers.

B&O Operator's Shanty

An interesting and easy to build trackside structure/**Bob Mohowski**



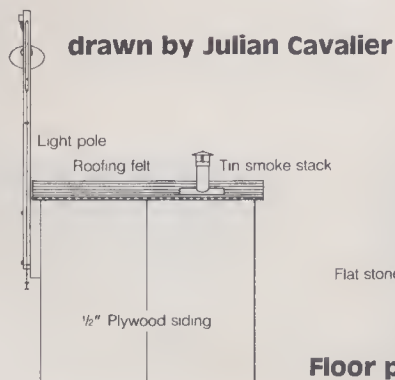
End elevation



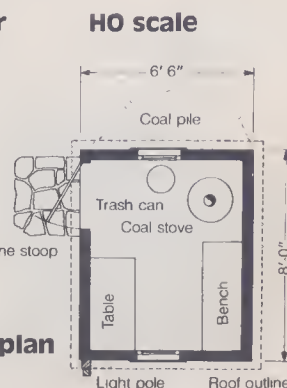
Front elevation



Pole end elevation

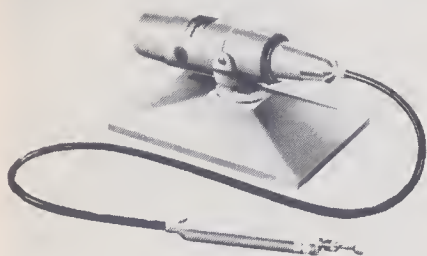


Rear elevation



Floor plan

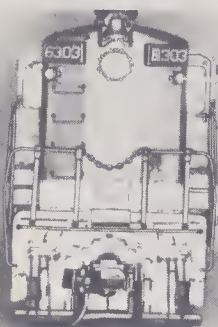
RMC/Dremel Kitbashing Award.....



AT LEAST \$25 and a Dremel Moto-Flex Tool are awarded to competition winners. To be eligible, entries must consist of two or more 8x10 glossy black-and-white photos (original color transparencies may also be submitted with the B&W prints) of a kitbashed railroad model utilizing currently-available commercial parts for over 50% of its construction. Entries not judged potential winners may be used in **Boomer Trail**. Include return envelope and postage.

Southern Ry. Train Master

as modeled in HO scale/
Douglas Nuckles



Due to the many differences between supposedly "standard" locomotives and cars, a knowledgeable modeler may find that a commercial product lacks certain obvious features of his or her favorite prototype. For example, Doug Nuckles and Frank Mabry of Charleston, S.C., found that Athearn's excellent FM Train Master lacked an important feature of the unit they wanted to model. A modest kitbashing project resulted, as Doug relates in the following report:

Being Southerners and Southern Railway fans and modelers, we were naturally a little disappointed that Athearn's model of the Fairbanks-Morse 2400-h.p. H24-66 Train Master was not to be had in the Southern version with low end platforms. (The "phase IIL" version purchased by the CNO&TP, now part of the Southern System, was also used by the Wabash.) We decided to kitbash a pair of them from Athearn kits and add some missing details.

After studying photos and drawings in books and magazines (we also had access to an 8x10 color print), we decided the task was not impossible. Lowering the high end platforms, or walkways, was the major part of the project.

Three horizontal cuts were made in each end with a thin coping saw blade. The first cut was made at the level of the top of the end walkway. The second cut was made to include the thickness of the plastic end platforms so that these pieces could be reused. The third cut was made just under the second step below the end platforms, leaving the bottom three steps intact.

These three parallel cuts extended inward about one scale foot past the first handrail post. A vertical cut was made at each corner with a No. 17 X-acto blade to remove the reusable end platforms and the vertical end piece to be discarded. The cut surfaces were sanded smooth before cementing the walkway at the lower level.

The missing sections of the front and rear end panels, and the side walkway steps and step-guards, were made from .020" styrene sheet and attached with liquid plastic cement. Cracks were filled with Squadron Green modeling putty and sanded smooth.

The center five sets of louvers were removed from the top row on each side of the body shell using a No. 17 blade. The molded-on grab irons behind the cab on the left side were removed the same way. These

areas were smoothed by scraping carefully with the back side of the same blade and sanding with 600 grit paper.

Appropriate-size holes were drilled, using a pin vise, to mount the detail parts before painting. A Cal-Scale five-chime horn was mounted on the center of each cab. A Details West "firecracker" radio antenna was mounted two scale feet from the front edge of the cab on the centerline. A Details West bell was positioned on the top front center of the low hood of Doug's unit; Frank used a Cary bell. Detail Associates grab irons, drop steps, and m.u. stands were added and secured with alpha-cyanoacrylate cement (ACC). Frank also cemented brass chain between the center handrail posts on each end.


The models were spray painted using Scalecoat Maintenance of Way Gray (No. 20) as an undercoat and for the wide stripe just above the walkway. After this coat was thoroughly dry, it was masked off with tape cut to a scale 18" wide. The frame, steps and ends were sprayed with Scalecoat No. 10 Loco Black. The body shells were then sprayed with Scalecoat's Southern Green.

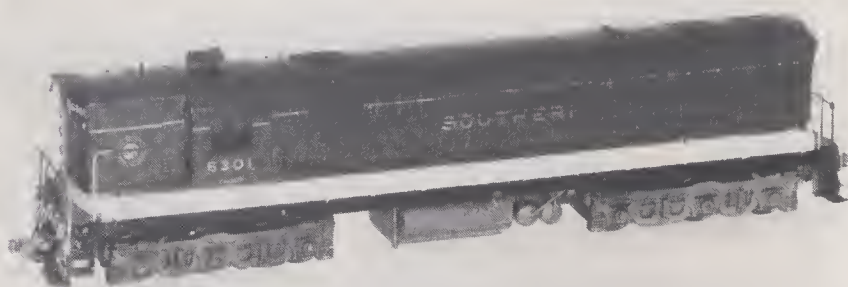
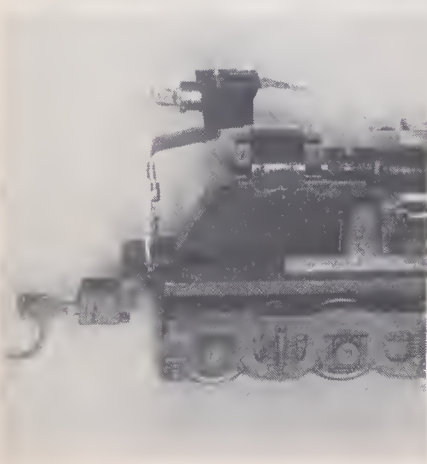
Herald King decals were placed using the color print as a guide. A No. 11 blade was used to cut through air bubbles and Walther's Solvaset was used to make the decals set properly.

After decaling, Detail Associates air hoses, crystal jewels for classification lights, and metal eye bolts with coupler lift bars were placed and secured with ACC. The entire model was finished with a coat of Scalecoat's flat finish.

The headlight bracket was reshaped as shown in the photograph to place the lamp just behind the front lens. The lenses and window glass were put in place after the flat finish was completely dry. Kadee No. 5 couplers were mounted at the proper height.

Brass wire, .020" diameter, was used to simulate piping between the air tanks on the right side, and from the air tanks to the frame on the left side. A plastic overflow pipe was placed on the left front of the fuel tank. These were secured with ACC cement. The underframe and truck sideframes were sprayed flat black and weathered with Floquil's Dust and Grimy Black.

These modifications and additions made the undecorated Athearn kit into very respectable models of the Southern's version of the brutish H24-66 Train Master. 





Working Train Order Board

Step by step instructions on how to build working semaphore train order boards/**Noel Holley**

The train order board—since before the turn of the century one stood in front of nearly every country depot and station. These signals were first erected during the time of manual block signaling; every section of track that was long enough to have operating conflicts was equipped with stations which would receive orders from the dispatcher via telegraph. Using his train order board, an operator would notify trains that there were orders to be picked up at the station. They were written or typed and hooped or handed up to the

conductor and engineer. Even with the development of automatic block signals (ABS) and centralized traffic control (CTC), train orders remain important. The thin green sheets are handled regularly by tower operators, station agents and train crews today, in spite of the common use of radio.

There are different types of orders and different types of train order boards. I chose to model a traditional upper-quadrant semaphore type with three blade and color light aspects. An upper quadrant board has the lights above the pivot point and blades, while the lower quadrant is opposite. The scale drawings show the differences clearly. As seen in Fig. A, the lower and upper-and-lower quadrant types required heavy counterweights to balance out the weight of the arms. The upper

quadrant type is pivoted at the balance point. While some semaphore order boards are still in use, a great variety of flashing, color and position light boards are now common. The traditional aspects are as follows: green (vertical), no orders; yellow (45°), pick up orders while moving; red (horizontal), stop and sign for orders. Form 19 orders are generally in use at this time for all purposes, red indicating a restrictive Form 19 order controlling the movement of a train at that station. Formerly, Form 31 was used for these stop-and-sign orders. If you follow a specific prototype, use their aspects and designations.

I made my signal in HO scale and all dimensions are given for that size. Work with the drawings and calculate equivalents if you are building in another scale.

PHOTOS BY NOEL HOLLEY



Train Order Board

The signal mast is a piece of $\frac{1}{8}$ " brass tubing, $4\frac{1}{2}$ " long. At the bottom of the mast is a base made from a washer and a fillet of solder. To make this, insert the mast vertically into a $\frac{1}{2}$ " deep hole in a block of wood. Drop the washer or a $\frac{1}{8}$ " bolt around it and put a little soldering flux around them. When you touch them with a hot soldering iron and a drop of hot solder, the solder will flow around them quite uniformly. See Fig. B. If you don't use the flux, the solder might form a lump.

The next step is to make the mast head, Fig. C. This is constructed of $\frac{1}{32}$ " brass channel. First, drill a $\frac{1}{8}$ " hole for the mast. Then, drill two .033" holes, each one $\frac{1}{8}$ " out from the center. These are for the .032" wire on which the blades pivot. These holes need to be close to the mast, but there should also be sufficient room to clear the $\frac{1}{16}$ " brass tubing lock sleeves on the pivot wire. There must be enough metal around the mast hole to allow for a strong joint when the mast head is soldered to the mast. To provide clearance for the pivot wire and lock sleeves, file inward from the end of the channel from a second hole drilled adjacent to the mast hole.

If you intend to use above-ground bell cranks to control the semaphore blades, two single-ended duplicates of the mast head must be made to hold them. Leave the mast head and crank heads attached to a few inches of channel until after you have soldered them into place on the mast. The extra length will make it easier to line them up and hold them in position while soldering. The mast head is soldered in place $\frac{1}{16}$ " below the top of the mast. See Fig. D. The crank heads are positioned at a level just above or below the height of the station windows.

To make the ladder, cut a piece of Walther's HO signal ladder stock $3\frac{1}{4}$ " long. Cut out the two rungs closest to each end and file the spots where they are flush with the sides of the ladder. Now bend the ends so that they curve around to a 90° bend and angle inward until they are about $\frac{1}{8}$ " apart. Solder the ladder to the mast so that it lines up with the mast head. The bottom of the ladder should be about $\frac{1}{4}$ " above the base of the mast.

Figure E shows my pattern for the semaphore blades. I found that this modeler's compromise allowed my blade to pivot easier. The General Railway Signal drawings have blades that pivot closer to the mast, thus the lenses are in a slightly different position relative to the board. The factors affecting the exact shape of the signal lens section of the blade are how far out from the mast the blade pivots and how high above the mast head the light bulb sits. Although it is possible to calculate these with mathematics and geometry, I found an easier way. Those working in the larger scales may be able to duplicate the General Signal design more closely.

I drew a semaphore blade on a piece of basswood, then erased and redrew it until it looked right. I then cut it out, but left plenty of wood around the lens section. I placed a piece of $\frac{1}{32}$ " wire at the pivot point and put the blade in place on the mast. While holding the blade in the red, yellow and green positions, I marked it with a pencil where the lenses would have to be located for the bulb to shine through them properly. I then removed the blade from the mast and drew in the lens section around the penciled dots. After drilling out the holes and cutting off the excess wood, I had a pattern

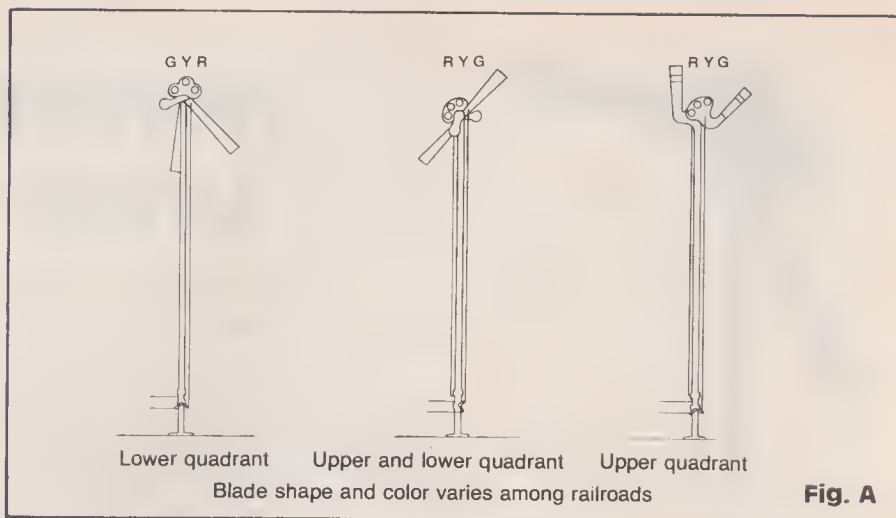


Fig. A

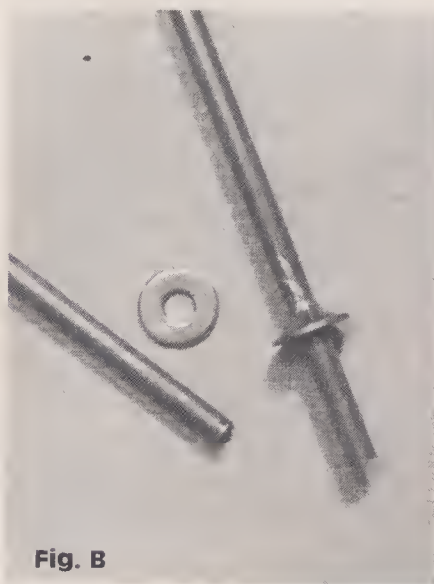


Fig. B



Fig. C

Fig. A shows the three different style signals. Notice that the counterweights which are present on the first two styles are absent from the upper quadrant signal. Construction starts by soldering a washer near the bottom of the mast to serve as the base (Fig. B). Fig. C and D show holes which need to be drilled for the mast head.

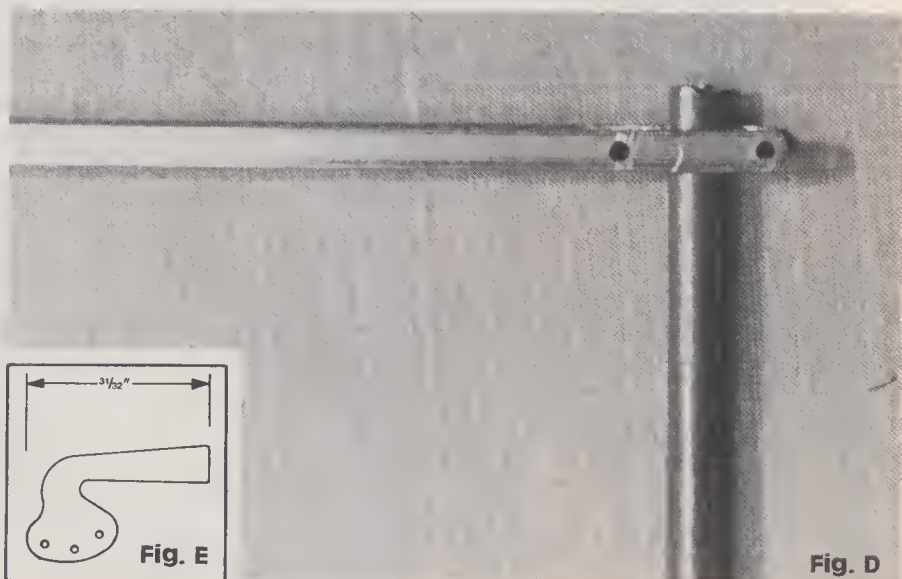


Fig. D

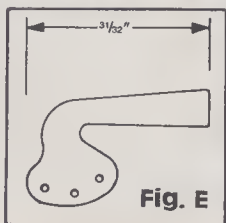


Fig. E



The side view of the mast head (above) shows the light housing and the connection between the semaphore blades and the mast. With the train order board displaying a yellow signal (right), a BN freight slows down and prepares to pick up a set of orders from the operator at the former Northern Pacific station in Easton, Washington. The two close-up views (below) show the colors for both the lens and the semaphore blade, as well as the position of the rods in relationship to the blade.



Train Order Board

for making the brass blades.

The blades are made of .015" sheet brass. Draw around the pattern with a pencil, cut the blades out with scissors or shears and then file them to their final form. The lens holes are $\frac{5}{64}$ " diameter and the pivot hole is .033". The .016" hole between the red lens hole and the pivot hole is for the throw rod. It is located here, rather than at the prototype location, to prevent binding and jamming that might otherwise plague the model. The partially-completed blades are shown in Fig. F.

To install the pivot wire in a blade, drill a .033" hole in a piece of wood and put a length of .032" wire through the blade and into the wood. The wood will hold the wire vertical while it is soldered onto the blade.

After they are firmly soldered together, pull them up from the wood and cut the wire off on one side. File all unnecessary material off both sides. A small spacer is needed between the mast head and the blade. Using the sheet brass, make a small washer with a .033" hole in it.

The lock sleeves which hold the blades on are $\frac{1}{16}$ " long pieces of $\frac{1}{16}$ " brass tubing. These fit on the pivot wires between the sides of the mast head (See Fig. G). Push the sleeve close to the mast head piece on the side closest to the blade. Then carefully touch some solder to it between the sides of the mast head. The idea is to lock the pivot wire in place on the mast head by using the blade and the sleeve to hold it in place. It will not be able to move to either side and thus can't drop out of the holes in the mast head.

With the blades in place, drill .016" holes in them for the throw rods; Fig. H shows the bar cranks that I used behind the blades. By testing the blade action, it will be possible to choose a location that will clear the mast head.

The scale drawings show cranks located at ground level. These pass through the wall of the station. They can be mounted higher, so that they enter the building above, not below, the windows. They may also be mounted in a rod and bell crank pit below the ground, per-

haps with a wooden access cover. You should decide the type that you wish to model.

Semaphores with above-ground bell cranks are far more common than those with cranks below ground. Having built one of each, however, I find the latter to be much simpler and no less impressive. When making above-ground cranks, keep things as simple as possible. Make each crank and its pivot wire out of one piece of .032" wire so that no soldering is needed. This is important because one slip with the iron could destroy the crank and crank head by welding them together.

Put the wire through the crank heads and bend it so that when one arm is connected to a horizontal blade, the opposite arm is connected vertically. Using a small hammer, flatten the bell crank arms and drill .016" holes in them for throw rods. The throw rods are made of .016" wire. When making below-ground cranks, allow extra length at the bottom of the rods; this will be cut off after installation.

After checking the semaphore for smooth operation, prepare it for painting. Remove all traces of flux and grease by washing in detergent. Rinse, then soak it in vinegar for an hour or so to slightly etch the brass, rinse again and let dry. Give the parts a coat of primer.

The most common color for masts in my area is silver, though black is also used. The blades are painted flat black on both the front and back. The straight section is red on my right-hand blade, along with a white stripe.


The lenses are made of colored celluloid salvaged from notebook divider tabs. Red, yellow and green are easy to get, but you may have to look in an office supply store for the bluish-green common in signal lenses. Glue pieces of celluloid on the back side of each lens before painting them black. Do not paint the round spot that lines up with the hole on each. Next, sharpen the end of a piece of $\frac{1}{16}$ " brass tubing. Using this as a hollow-point drill, cut out more lens pieces from the celluloid. Use Elmers epoxy or another clear epoxy glue to cement them into the holes in the semaphore blades. This will make double-thickness

lenses with a strong color when a light shines through. A little extra epoxy on top of these will harden to a realistic convex shape.

The last step is to paint a PFM microminiature bulb black. After the paint dries, scrape it off on two sides so that the light will shine through the lens that is adjacent to it on each side. The bulb is small enough to fit within a $\frac{1}{8}$ " tube and can thus be adjusted to proper height on top of the mast.

The least-complex way to control the order board is with manual choke cables. Mine were made by Precision Automotive Products Co. and were obtained at an auto parts store. They are about six feet long, equipped with a push-pull knob and are designed to be mounted through a control panel. The first train-order semaphore that I built is operated by electric motors controlled by push buttons. This system cost about \$30.00, used Kemtron gearboxes and British motors. I also experimented with screw-driven switch machines.

The signal has a red to green throw distance of about $\frac{3}{16}$ ". This is too small to work effectively with choke cables. A differential bell crank solves the problem, however. The bell crank should have its short arm connected to the semaphore's rods. The short arm length is $\frac{3}{16}$ " from pivot point to link point, and the long arm is $1\frac{1}{4}$ " from pivot point to link point. The result of this differential is an easy-to-work knob with sufficient movement to accurately position the signal. My bell cranks were cut from $\frac{1}{16}$ " thick plastic sheet; Fig. I shows the details.

The final mounting of the train order board must, of course, be done on the station platform before the differential cranks are affixed. This can be done on a separate sub-base with blocks of wood to hold the various parts in line. You can use the order board to add to your operations, just as the prototype does. Whether or not you actually write them up is optional—when crews pass a station or tower, they will become used to looking at the order board, knowing that there may be instructions affecting their train. 

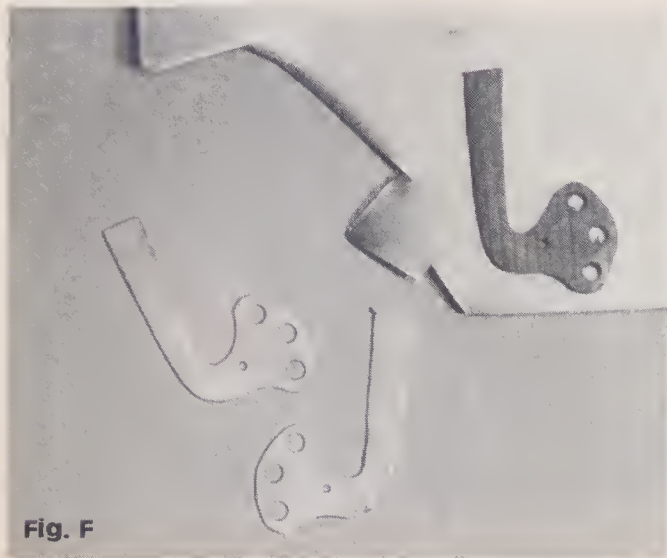


Fig. F

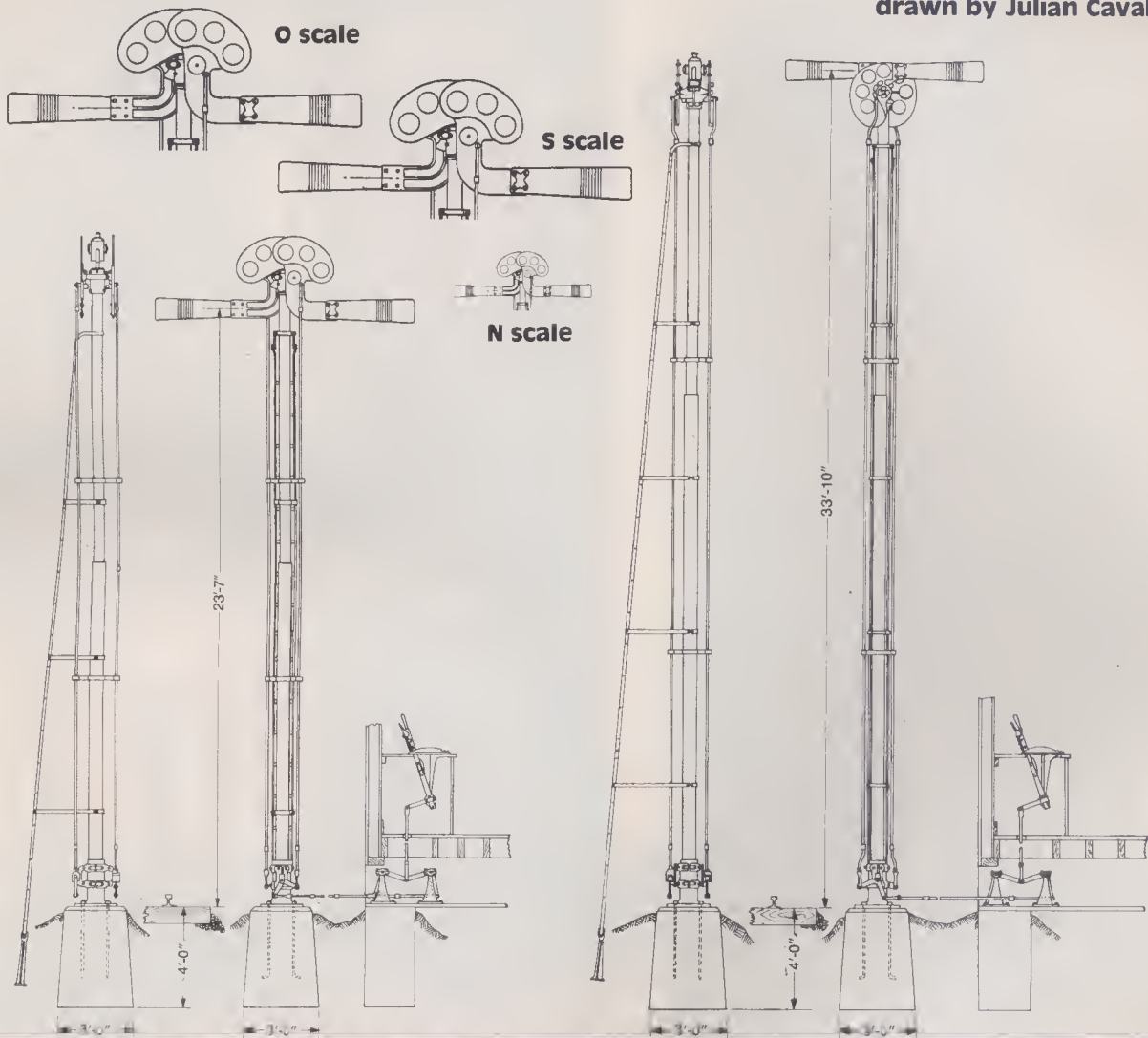


Fig. G

A pattern for the signal blades was first made of basswood and then traced onto sheet brass. The brass blades were then cut out with shears and filed smooth.

Each semaphore blade is held in place by a $\frac{1}{16}$ inch long piece of $\frac{1}{16}$ inch brass tubing. This locking sleeve is soldered to the rods that the blades pivot on.

drawn by Julian Cavalier



Full-size for HO scale: 3.5mm = 1'-0"; 1:87.1

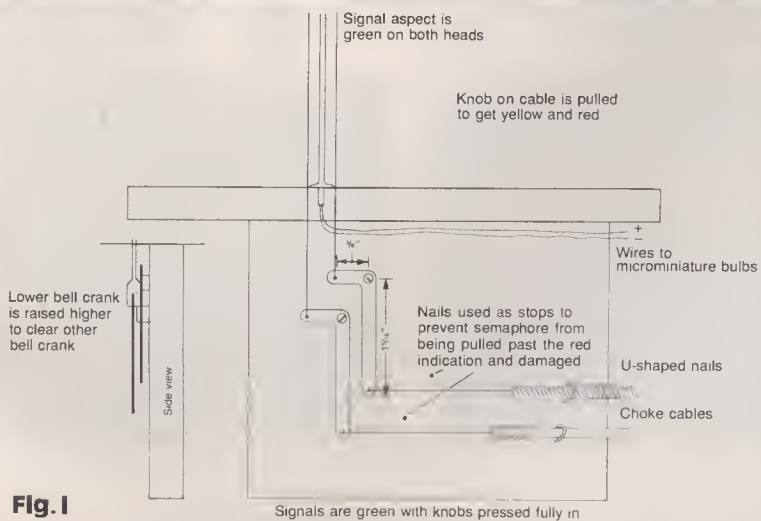


Fig. I



After the pivot rods have been attached, the blades are fitted onto the mast head.



Train order board semaphores with above ground bell cranks, like the one above, were once a common site.



According to the author, order boards with below ground linkage were not as common on the prototype, but are simpler to model.



The green signal displayed above indicates to the train crew that there are no orders.



The yellow aspect alerts the train crew to pick up orders on the fly and proceed.



The red signal and horizontal blade mean the train must stop to pick-up the orders.

Stone depot

An easy-to-build passenger station that uses a mixture of materials and construction techniques/**Rob Corrison**

What's a branch line railroad doing with a costly stone depot? Who authorized its construction, and how did the stockholders take to the idea? Let me explain:

When the survey crew laid out the right-of-way, the ruins of a late-1700s farmhouse lay some 100 yards to one side. Thinking ahead, the chief surveyor conveniently "bent" the track a little to where the track just happened to pass within ten feet of the house. Later, some grumbling was heard from the Bridge & Building gang when they had to pound through the thick stone walls to make space for the bay window, but all went well.

Truthfully, I was eager to try my hand at scratchbuilding a hand-carved plaster structure. When I had completed the basic building, I found I had just that—a very basic structure. The cupola and handcar shed were

strictly an afterthought but added the necessary interest to the flagstop country agency.

This project proved to be one of the most interesting and enjoyable I've tried in years. It represents a departure from the wood or cardstock type of structures I am so used to. I learned a few things and failed to anticipate a few others but, in general, had a ball with this little building.

Construction

From a rough sketch, I transferred the dimensions to a piece of 1/4"-thick Plexiglas® by scratching-in the lines with a needle in a pin vise. (A sheet of black construction paper underneath the Plexiglas for contrast helps.) Fig. 1 shows this.

Next, I cut a supply of 3/16"-thick balsa strips and rimmed the scribed outlines, using a rubber cement to attach them. More 3/16"

balsa was cut to the required size and positioned to form window/door plugs. I did this procedure with all four walls, but only two forms were needed. By flip-flopping the castings, provide front and rear walls can be obtained. The left end wall can be cast by adding an extra window plug at the lower right corner.

I used Hydrocal® for my castings (obtained from Stewart Clay Co., New Brunswick, NJ 08902). Regular plaster of paris or patching plaster is unacceptable; it is too soft and stone details will not stand any handling. I mixed up a soupy mixture and poured it into the pre-wetted molds after making sure they were on an absolutely level surface.

My first "failure to anticipate" involved the initial batch of castings, which were baked in an oven at 250°F for an hour. Attempts to carve rocks in them was like carv-



Stone depot



PHOTOS: THE AUTHOR

Fig. 1: A form for casting walls in plaster is easily made from wood glued to a smooth surface. Seal the wood before pouring the plaster.



Fig. 2: The cast-plaster wall blanks are then hand-carved with the stone-work. A gouge, scribe or knife blade can be used to do this step.

ing marble with a straight pin. King Kong couldn't have carved them. Advice: Let the castings air-dry for an hour in the molds, remove and stand them upright, and allow to dry overnight.

The next day, I popped the window/door plugs out of the openings. Each wall was run across a sheet of fine sandpaper to get it flat and edges square and true. All openings were checked for squareness, and any that were slightly off were quickly trued with a file. A diamond-dusted nailfile is great for this.

Carving

Fig. 2 shows the next step. Using a fine ball

pen, I drew on the stones in a freelance fashion. (Keep in mind how big a stone could you handle if you were building the prototype and keep the stones to scale.) Hobby knife blades will work, but the best tools for this are dental picks in several sizes; your friendly D.D.S. will co-operate, I'm sure. I took care not to go in too deep; a scale inch or so produced good results. This task required lots of time but paid off nicely.

After all the walls were carved to my satisfaction, they were joined together (squarely) with white glue. The end walls were butted to the lateral walls and the assembly allowed to dry overnight. The inevitable gaps at cor-

ners were easily filled with Hydrocal. When the Hydrocal had hardened, the corners were carved to shape, creating the illusion of actual cornerstones.

At this point, the stones looked good, but lacked depth or shape. To remedy this, I mixed up a milky solution of Hydrocal and water. A No. 2 brush was used to sweep this solution across each stone. A nice textured surface was left behind. This application was varied to broaden or thicken each stone. I was careful not to touch the stones at this stage, as a powdery deposit was all that was left. To freeze the texture, several liberal spray coats of Krylon Clear were applied—



and I mean "liberal" in the fullest sense. After this had dried, the structure could be handled without fear of detail loss.

Staining

The clear spray coats were very important. Besides sealing, they provided a good base to apply the coloring. I used Floquil stains: Mahogany, Walnut, Teak and Driftwood. The bottle was barely shaken; I wanted pale coloring throughout. (It's easy to darken the stones, but impossible to lighten them!) I worked to vary coloring considerably. The process took time, and I didn't rush it.

With the stones stained, I then stained the joints between them. The Driftwood was shaken once or twice only; if it was too dark, I let it settle a few moments, then tried again. A No. 4 brush was used to touch the stain to the joints and cracks; capillary action did the work. Again, I took care not to overdo this part and worked gently until I was satisfied with the results.

Windows

Another of my "unanticipated" factors was the windows. With a lot of time already invested in the project, I faced the prospect of a lot more time spent on making the windows. The $\frac{3}{16}$ "-thick walls represents an HO scale 15"—too thick, of course. This necessitated each window being recessed inside opening a scale 6". To save time, commercial metal castings or plastic moldings would be in order; just make sure you adjust the dimensions to accommodate them.

I made the windows of two-ply Strathmore card measured and cut to fit each opening.

After staining both sashes, I added microscope slide-cover glass cut with a diamond scriber. This was tedious at best, and each window required special handling. The mun-tins are .010"-diameter soft wire dipped into full-strength paint and installed with the aid of tweezers. Each window took at least an hour to make, so I would suggest you look into commercial ones.

Bay window

I drilled and filed out the front wall to accommodate the bay window. The plaster was easily cut and filed square. The entire bay was laid out on a drafting board, and the two-ply card was then scribed to represent the boards. After staining, the necessary window work was completed. The corners were scored and then bent to a proper shape before I installed a heavy card floor. Note the bay attached to the front wall.

At this stage, window shades were added. They enhanced to the overall effect. The roof was measured and cut from two-ply stock, and shingles were cemented in place.

The main roof was made at this time. To save a little time, I used Campbell Profile shingles. A piece of bond paper stained a grayish-brown color cut into 12" strips and attached using a contact-type cement will also do the job. One nice feature of this structure is that no interior bracing is necessary, save for a ridgepole to support the roof. The roof was neatly and squarely positioned and the fascia boards added at the ends.

A piece of card was cut to the stone chimney dimensions and trial-fitted to the roof. When it fit the roof pitch correctly, I used it to

scribe lines on the Plexiglas. A simple mold was made and the chimney cast to this shape. I carved stones as before, stained them in the same manner and mounted them in place. I used a motor tool and dental drills to hollow out the chimney about $\frac{1}{4}$ " deep. The interior was painted flat black.

Handcar Shed

The handcar shed is a small and straightforward structure. I laid the walls out on Strathmore stock and did all the necessary work (windows, etc.) before scoring corners and bending into a rectangle. Adequate interior bracing was installed, as was a floor. Roofing was made as described previously. The smokejack was made of various sizes of brass tubing soldered together. The cap was cut from shim stock.

Platform

The platform is a simple grid constructed of 6" scale timbers to which 2x6 pre-stained planks were added. Dimensions are arbitrary. Mine measures 60 feet long, 23 feet wide (handcar shed area) and 8 feet wide at its narrowest point. I made sure platform measured at least one passenger-car length.

The details which make a scene come alive are left to you. Certainly, a speeder or handcar should be in the scene, as well as various items such as barrels, track-laying equipment and, of course, figures.

I've reviewed the basics of this masonry-type structure. My main interest in preparing this article is to urge you to try this different approach to structure building. I found it very rewarding.



RAILROAD MODEL CRAFTSMAN



Rear of shed



photography/JOHN ALLEN

PART 1 APPEARED IN DECEMBER 1980 RMC. PART 2 IN FEBRUARY 1981. PART 3 IN APRIL 1981. PART 4 IN JUNE 1981. PART 5 IN AUGUST 1981

John Allen: the man behind the legend

Jim Findley remembers his friend John

Some years ago, John Allen of Monterey, California, suffered a fatal coronary, and with his passing the hobby of model railroading lost one of its recognized giants. Even in his heyday very little reached print about John as an individual and it occurred to me that it might be of some merit to reminisce a little on the subject for those new comers to the hobby unfamiliar with John and his lay-out.

I met John in the late fifties and from then until his death, I saw him frequently and visited with him extensively. At that time his house was sort of a Mecca for model railroaders and I was privileged to sit in on many "bull sessions" between he and his guests. His callers included such mechanical geniuses as Cliff Grandt and Jerry White; editors Hal Carstens and Linn Wescott; as well as people in the commercial sector of the hobby like Leo Campbell and Bill Ryan; and a whole raft of general practitioners in the art and trailblazing like Whit Towers, Bill McClanahan and Cliff Robison. As long as I disguised my own ignorance, I was tolerated on the periphery of their circle. I was able to learn a lot from John's friends and I found that the people in the hobby were a very fine and special breed, which is as true today as it was then.

If my recollections of John and the G&D are random and somewhat disconnected it may be due to the fact that my visits were somewhat that way too.

It would be foolhardy to isolate John as being the first to explore some field or technique in the hobby. If I said he was the first to use mirrors to "open up" a layout, there would inevitably come someone to challenge the opinion with the fact that Xavier Fargargle first used mirrors on his No. 2 gauge loop during the Christmas of 1899. So, I will not claim that John was the first in anything, but I will claim that he was one of the pathfinders who developed, sophisticated, and added dimensions to a great many aspects of the hobby.

Still, despite his towering stature in model railroading, John was earthly, fallable and he had the sense of humor that allowed him to poke fun at himself among friends. When one of them asked him how he had ever thought to try some new approach, he would smile indulgantly and claim, "Because I'm the Great Poobah!" That title dates back to a Neanderthal comic strip called Major Hoople whose central character was a pompous omnipotent oracle given to making that claim himself. It was a caricature, of course, and John didn't act that way generally. However, honesty bids me record that among close friends he some-

times let slip the fact that he knew-it-almost-all.

After one particularly bruising encounter with his opinions, I had some cards printed with "THE GREAT POOBAH" in large letters and his name in small print below it. I had a lot of fun with the cards and one appeared in a national magazine at the time. I thought he would be furious, but he never even mentioned it when I next saw him. I guess that in that particular case he adopted the widely prevailing political philosophy that even questionable publicity isn't objectionable if they spell your name right.

An even handed treatment also bids me record that he almost single handedly raised the standards and elevated the sights of the majority of us. As a card carrying member of the "Great Unwashed" I know that I was introduced to such things as; super detailing zamac locomotives, realistic weathering, floor to ceiling scenery, ultra violet lighting, prototypical operations and a whole host of other mind expanding possibilities through his articles, photographs and clinics. I wouldn't be surprised to learn that a number of the pioneers of that era first warmed their hands at the lamp he lit.

During one period, John became immersed in the operational possibilities of a small switching layout he had put together. The success of his brainchild wildly exceeded his fondest hopes and he took to carrying it to local conventions to demonstrate the fun of shuffling cars in a relatively small area. It was so much fun that dozens of people spent thousands of hours playing with it. John called it the Timesaver, which I considered a perplexing misnomer since it saved time about the way canasta and golf provide more leisure hours, but I am staying off that subject. The Poobah was so pleased with his toy that he insisted on taking it nearly everywhere, and that included some curious and far away places as Dallas, Texas. A trip to Dallas in-





John Allen's love for bridges and mountains is well known. These two spectacular photos emphasize the dramatic floor to ceiling scenery he employed. John was a pioneer in many fields of model railroading, and this was only one of them. Additional scenic effects on the railroad included hidden mirrors, ultraviolet lights and weathered rolling stock (left). By 1953, John was well enough known to merit being put on the cover of *Model Railroader*.



The man behind the legend

volved commercial air travel and since the Timesaver scarcely qualified as under-the-seat luggage John began running into problems.

While airlines happily sell extra seats to musicians for their base fiddles, it is a whole new ballgame when the guy plays an alphorn. Not that he entertained for one minute the idea of paying an extra fare. He understood Public Transportation to mean exactly that. It transported the public and that automatically included transporting their accouterments, however unlikely. A series of phone calls to United, Delta, and American to discuss the issue resulted in a series of referrals to a like number of air freight services; and a dead end as far as carrying it on his regular excursion ticket was concerned. I could hear his end of these conversations (even though I was in the kitchen at the time) and they were interesting to say the least. Especially when John suggested that his "package" was on the order of a suit bag and they recommended folding it. To make a long story short, John did take The Timesaver to Dallas on a commercial flight and at no extra expense to himself. He was uncommonly close mouthed about how he managed it and, in as much as he traveled alone (when he mentioned carrying the Timesaver as cabin baggage the rest of us pretty much lost interest in the trip), we never were exactly sure what took place at the Monterey airport - or the Dallas airport either for that matter. We just assumed that old good-hearted Cliff Robinson met him at the plane in a rented Ryder Van.

It may have been because he lived alone so much, but John was a talker of noteworthy dimensions. He loved nothing so much as a good heated conversation and he was by no means singled minded about the subject under discussion. I think it was Whit Towers who once emerged from a particularly electrifying deluge of words and mused in awed bewilderment, "Talking to that guy is like trying to take a drink from a fire hydrant!" As a matter of course John talked at a steady 250 words per minute - with occasional gusts of over 400. I used to accuse him of ending his offering on a subject with the word "and" - figuring the courtesy of his listener would prevent his losing the floor while he got his breath and decided on the next subject to attack. Yet, he was one of the most fascinating conversationalists you could ask for. He seemed to know something interesting about nearly any subject under the sun and he voiced such a variety of unorthodox opinions that you felt both entertained and enlightened, even if your contributions were minimal.

John was rarely out talked in a give and take exchange, but I do recall one memorable evening when I got carried away and held forth at great length on some trivial point. After a while I noticed the strangled look on John's face and paused to ask him what was wrong. "You keep right on talking when I'm interrupting!" he accused.

To say that traveling with John could be unsettling would be as charitable as saying walking through minefields is not the best route to physical fitness. They are both blatant understatements. Although he loved visiting layouts, attending conventions and seeing tourist attractions, the actual process of getting there seemed to affront his dignity. It

also severely tested his uncertain temper and made him belious for weeks thereafter. On this subject the number of illustrative anecdotes must be roughly equal to the number of people who had occasion to make a trip with him multiplied by the number of trips actually made. His unhappiness with the traveling itself was all pervasive. If he drove his car at all, he did it with the utter abandon of a demoted Kamikaze pilot. He followed the quaint theory that the less time he spent on the road, the less danger involved. If someone else drove, he fidgeted, fussed and fumed until passengers in cars two lanes removed were uncomfortable when we passed. Airplanes spent entirely too much time flying and too little arriving at their destinations, and on a train he was the original Man Who Came to Dinner in the Diner.

He journeyed most often in company with his operating crew and I used to listen to their travel accounts in stunned disbelief until I made a couple of trips with him myself, and then I felt they were guilty of criminal understatement.

One trip I remember in particular was the time a whole bunch of us attended a national convention in San Francisco. We were leaving and the drivers of the two cars had brought the vehicles to the front entrance of the hotel where all of the luggage was waiting. Confronted with the prospect of the several hours in a car necessary to get back to Monterey, John reacted normally for him - he got in one hell of a hurry to get it over with. Taking over supervision of the loading process he danced around in the group doing the actual loading, gesticulating wildly while alternately admonishing us to hurry and authoritatively designating which suitcases went where in which car. What our departure lacked in efficiency it more than made up for in speed and tumult.

Later in Monterey we discovered to our chagrin that we had accidentally included a

strange bag that didn't belong to any of us! (I personally regarded it as a minor miracle that several bags and an innocent bystander hadn't gotten caught up in our chaotic exodus.) John didn't even consider that any responsibility for this might rest on his door step. He grumbled about our stupidity for days and forever after referred to the incident as "That time one of you donkeys stole some poor guys luggage."

No monograph on John could possibly be complete without a glancing blow at his car. For nearly all the years I knew him he drove an old relic that was just this side of the disc wheelers. It was also just this side of the junk heap, but we'll get to that in a minute. Over the years that car became John's pride and his agony. He developed the sort of affection for that old Plymouth you would normally associate with something very much alive, and he was partially on target. I had an uncle who felt very much the same way about a spavined mule. It wouldn't work and became downright dangerous to get near, but it had been around for so long he couldn't bear to part with it. That description fits my uncle's mule or John's car . . . take your choice.

Cudgeling my mind for redeeming traits in that car I recall that Texans liked the fact that they could ride comfortably in it wearing a Stetson; and that it was a cinch to pick out in a parking lot standing, as it did, two feet taller than everything but the lightposts. But that was about the extent of its virtues. In its later years the radiator leaked spectacularly, but instead of replacing it John poured some kind of gunk in it that was supposed to seal the leaks. This pouring process continued for several years until you could fill the radiator with three or four quarts of water. I ought to know for it fell to me to fill it anytime the car had been standing for more than an hour. That's how long it took to drain completely dry. If we went to a friends house for an evening of trains, or to a movie, or anywhere else other than a quick trip for groceries, it was absolutely vital that I stash a spare jug of water in the rear boot. It was the only car I ever saw whose range was determined by the level in the radiator instead of the gas tank.

Speaking of the level of the gas tank, John seemed to live in mortal fear that the gas gauge would get above one quarter full. We ran on empty so much that I acquired the warped fixation that he was somehow trying to wean the damned thing. Once we came into a service station on a lonely back road late at night by cranking the last 200 yards with the starter, and he asked for five gallons! I was horrified after such a near thing and told him so in unmistakable terms. It left him completely unperturbed, "I got us here didn't I?" He argued loftily.

If I had to describe John in an irreducible number of words I would have to say that he was a gentle tyrant. It never occurred to his legion of friends and acquaintances to fault him for his unpredictable behavior simply because his many attributes made the matter relatively unimportant. He could, and did, on countless occasions help someone less gifted than himself; and he did it with understanding, thoughtfulness and dignity. John had a natural enthusiasm for model railroading and that is how I like to remember him. For, as I look at it, John never did run out of steam, he just ran out of track.





Train watcher's telescope

As built in O scale from
brass tubing/**Julian Cavalier**

What's the story behind this little item? Well, one of the local railfans could only see the Florida Surf Line's trains passing in the distance—it was a long walk to the tracks and, besides, the creek was in the way, so he built himself a telescope. It would also be handy for the widow's walk on a New England house or in the cupola of a mansion on San Francisco Bay.

The $\frac{1}{4}$ " scale, all-brass model that I scratch-built is operational in its horizontal and vertical movements, and the telescope itself can be removed from its tripod. It's not difficult to build, and with the materials on hand, can be done in one or two evenings. Ordinary hobby tools, small files, razor saw, and a couple of small drills, are used, along with some cyanoacrylate cement. The following is a bill of materials available at most hobby shops:

Brass rod: $\frac{1}{32}$ " and $.020$ " diameters
Brass tubing: $\frac{1}{16}$ ", $\frac{3}{32}$ ", $\frac{1}{8}$ " and $\frac{1}{32}$ " diameters
Model Shipways brass air ports: No. 420, $\frac{1}{8}$ " size
Model Shipways brass gudgeon strap: No. 933, $\frac{3}{8}$ " size
Model Shipways brass backing link: No. 418, $\frac{1}{4}$ " size

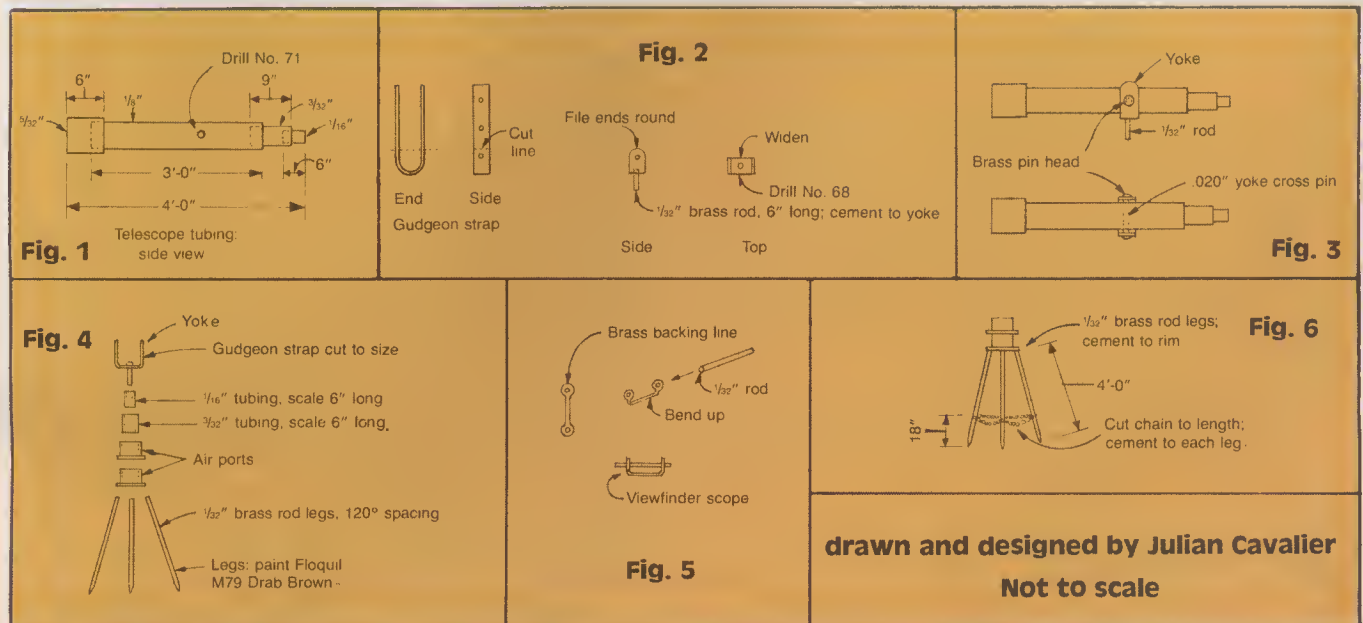
Before beginning construction, check over the various drawings and photos. I used Krazy Glue to hold the assembly together, and an X-acto miter box to cut the tubing. The ends of all cut pieces of tubing were filed smooth around the edges. The chain is Model Shipways No. 478, 36 links per inch; other brands or nylon thread could be substituted.

Refer to Fig. 1 and begin construction of the telescope by cutting the four different sizes of brass tubing to length. The tubing will telescope one inside of the other, as shown. Just push the pieces together a little as indicated, adding a dab of cement on each outside piece before doing so. When the cement is dry, find the central balancing point of the assembly and drill a No. 71 hole through the tubes at it. Make the mounting base according to the

diagram in Fig. 2. Take a needle-nose pliers and widen the base of the U-strap so that the $\frac{1}{8}$ " brass tube will fit between its center with a fraction of an inch of space on both sides of the tube. Cut the gudgeon strap as shown, then file the ends round. Drill a hole in the center of the base of the "U" with a No. 68 bit and file both sides of this hole smooth. Cut a scale 6" length (O scale) of $\frac{1}{32}$ " brass rod to fit into the "U" base hole, filing the tip of one end if needed for a tight fit. Cement it in place, as shown in Fig. 2. Cut a length of $.020$ " brass rod for the yoke cross pin. Fit this pin through the hole in the telescope tube while it is set in the yoke as shown in Fig. 3, and then cut the heads off two small brass straight pins; cement these to the ends of the cross pin to hold it in place. This will secure the telescope on the yoke and allow it to move up and down.

Figures 4 and 6 show the mounting and tripod assembly. Cut the $\frac{1}{16}$ " and $\frac{3}{32}$ " brass tubing to length and cement them together. As both of these pieces are the same length, they should fit flush at both ends. Next, fit the two brass air ports over the tubes with the wider rims facing down on both ports. Figure 6 shows this assembly; cement the ports in place. Place the telescope yoke unit into this completed mount for a test fit. The telescope should turn freely in a horizontal plane. The brass backing link is used to hold the smaller viewfinder scope. Make it up according to Fig. 5 and slip it into the link holes. Cement it to the main telescope, slightly offset towards the eyepiece end.

The tripod legs are made by cutting three lengths of $\frac{1}{32}$ " brass rod to size; see Fig. 6. Space them evenly (120°) on the bottom of the telescope mounting, angled slightly outward. Test the telescope after the cement is dry. If it tips over, spread the legs more. I used chain to connect the legs. This is supposed to stop the legs from collapsing on hard pavement; the tips of the legs may be pointed to press into the ground. The telescope itself can now be placed on the tripod. It should swivel freely, just like the real thing. The figure looking through my telescope is from C.H.B. models.



Boomer Trail



PHOTO BY JACK KRAMER



PHOTOS BY BRIAN MONAGHAN

British modeling often exhibits carefully built and detailed rural village and farm scenes. Among the favorite building materials for the structures in these areas is stone, and modelers have developed methods of duplicating this type of construction accurately. Brian Monaghan, of Manchester, England, built the watermill (above) for his layout, using a variety of fern moss for the riverside vegetation. The water is made of clear varnish poured over a bed of sand, gravel and soil, to produce the foam on the water, polystyrene glue was applied sparingly. (Right) The ball signal, scratchbuilt by Jack Kramer in HO scale, was inspired by an article in the October, 1981, RMC. The last of these signals in operation is at Whitefield, N.H.





PHOTO BY PETER WATSON

Peter Watson's Sandy River & Rangely Lakes No. 5, an On2 Forney that started out as a stock brass import, but has been back-dated to 1915, crosses a dirt road near the Kingfield enginehouse. The Model T is a National Motor Car Co. product, and the grass is made from hair.

It's hard to tell if the conversation is serious or casual on the front porch of the Bucket of Blood Saloon, but the gentleman in the top hat could be the judge come to town to hold court in the only permanent building. The scene is on Bob Tyson's O scale layout.

PHOTO BY BOB WALKER





Calumet and Hecla was the richest company to operate in Michigan's Copper Country. It started an expansion program around the turn of the century which resulted in its owning, controlling, or leasing almost every property north of Portage Lake by the 1920s and 1930s. C&H explored its new territories through a variety of methods. One of these was to reopen old shafts to explore and test the local area.

If these old mines were near an existing rail line, a branch would be built to them. Four operations in Keweenaw County were far from any rail service, so any rock produced was trucked out and dumped into rail

cars at the ramp located at Allouez. From there it was hauled to the stamp mills in the Lake Linden-Hubbell area. A very substantial amount of rock was dumped from the ramp. The exploration at the Central-Dana location alone netted over 1.8 million lbs. of copper, which means a minimum of 90,000 tons of rock had to be handled.

The ramp was very substantially built and was wide enough to completely load a car without having to move it during the loading. With its own forests, saw mills, and carpentry shops, C&H didn't skimp on lumber: 12X12s dominate the construction. The ramp straddled the siding and had batter

braces at its end to compensate for the force of trucks backing up the ramp. Because the rock was very hard, any wear areas were covered with steel plates.

These plans are based on the Allouez ramp. Due to the fact that parts of the structure have fallen apart, some speculative designing was done. I also made slight changes to better suit my narrow gauge line. It looks like the order came down to build "a ramp" with the actual design and construction left up to the gang foreman or junior engineer in charge. Years of use and repair surely resulted in some changes. The lack of chutes on the north half might be due to a decision not to replace them when repair was due. I can not determine any logical reason for the center beam at the chutes being lower than the others, unless it was a repair job.

The ramp will not clear an iron range ore car or coal hopper, since the C&H used relatively low-sided wood or steel rock cars. It will clear a standard-gauge gon and all types of narrow gauge gons and hoppers, including the EBT steel coal hoppers. It's close, so check carefully; you might remove some high brake wheels on the first push through. Those wishing to increase clearance should do so by increasing the length of all the bents and increasing the amount of fill at the ramp end.

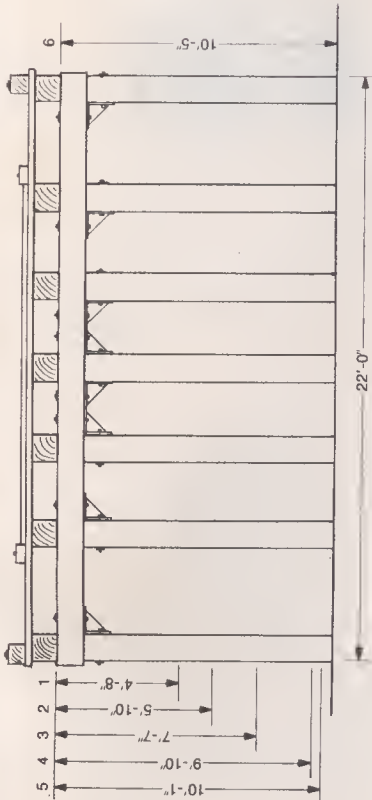
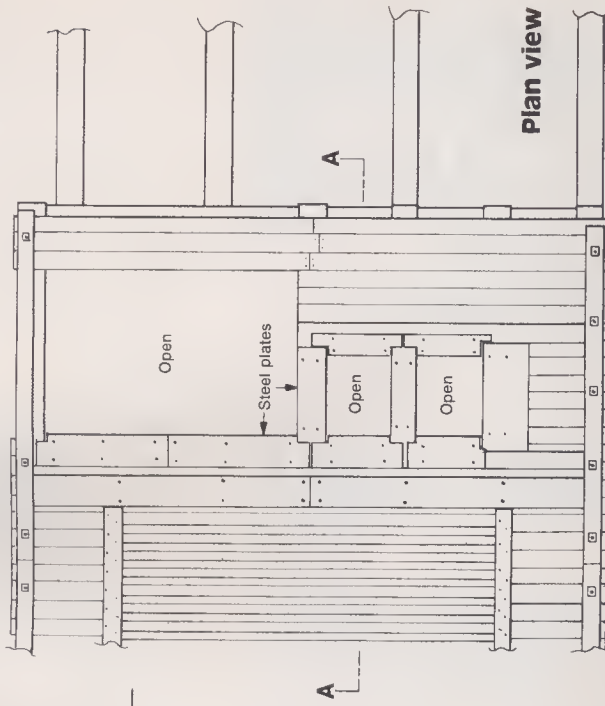
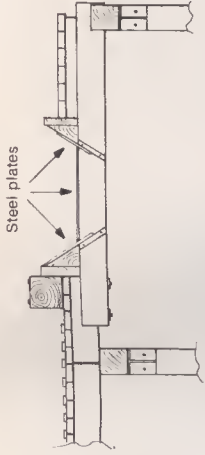
The loader can be easily built with strip wood and offers the model railroader an opportunity to get into the mining business with minimum space and equipment. ☞

Ore-loading ramp

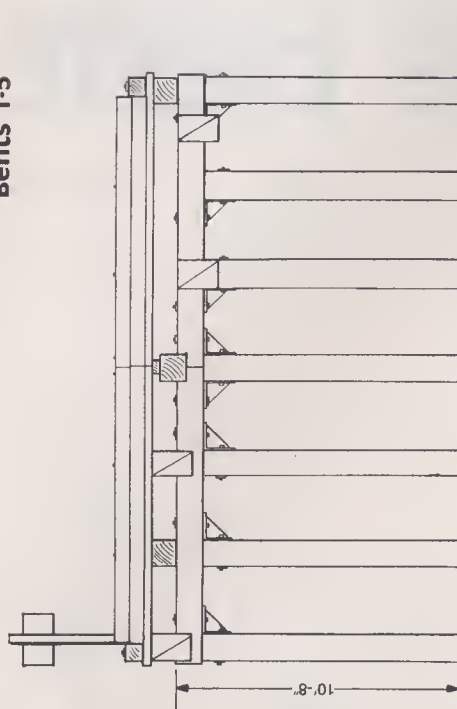
Drawings of a truck unloading ramp/Paul Meier



Section A-A



Bents 1-5

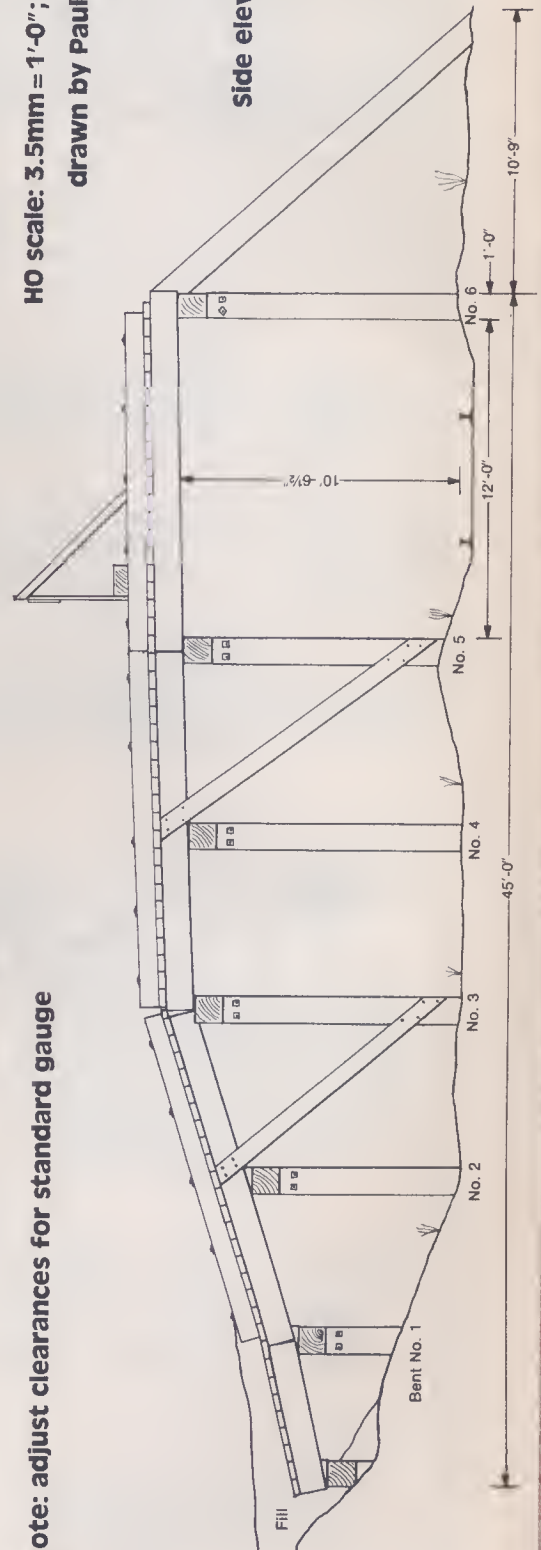


Bent 6 (End elevation)

Note: adjust clearances for standard gauge

HO scale: 3.5mm = 1'-0"; 1:87.1
drawn by Paul Meier

Side elevation



Constructing trestle bents is one of those relaxing and enjoyable, but slightly repetitive activities which exist in our hobby. However, by prestaining the bent components and using a simple assembly jig, together with a cyanoacrylate cement for wood (such as Super Jet, Zap or Hot Stuff Super T), trestle construction can quickly outstrip available gullies, creeks, canyons and rivers.

However, one aspect of trestle construction can create endless frustration: getting all of the columns the proper length. The obvious key to a properly-engineered trestle bent is insuring that all of the columns contact both the top cap and the bottom sill. This is often difficult to achieve. Not only must all four or five columns be the correct length, but the outside columns must also have the correct bevel.

What normally happens is that the third or fourth column to be cut to length ends up too short, resulting in the need to trim the previously-prepared columns. This procedure continues indefinitely, finally producing a trestle bent approximately three scale feet high. The whole process is akin to the comedy cliché of sawing one leg after another of a table to eliminate wobble.

This problem during a recent multi-bent trestle construction project led me to seek a better way. The key seemed to lie in cutting all of the columns for a single bent simultaneously. While a miter box or NWSL Chopper could be utilized to cut a number of columns to equal lengths, neither allows both inner

(square end) columns and outer (bevel end) columns for a single bent to be cut simultaneously. In addition, because of the batter of the outer columns, the inner and outer columns of a bent are different lengths. This is difficult to accommodate on a miter box-type arrangement.

This realization led me to construct the simple jig shown in Fig. 2. This jig was designed to be used in conjunction with a stationary belt or disc sander. It is constructed from .060" styrene with .060" styrene strips as guides. These guides position the stripwood to be used for the columns in relation to the sander and therefore should be set to provide a fairly tight fit. Likewise, the "drawer" must fit relatively tight and the stop should be perpendicular to the center (square end column) guides and the movement of the drawer. Room on one or both ends of the jig is provided to clamp the jig to the sander table. Since more than one drawer must be provided as detailed below, the simplest construction sequence is to first cut one or more equal-width strips of .060" styrene for the drawers (I use a NWSL Duplicutter to guarantee that all are of the same width.) One of these strips is then used to insure that the slot in the jig body matches the drawer width; this is much easier than attempting to later match the drawer width to the slot width. After cutting the drawers to various depths (d), the stops are bonded in place with the drawer temporarily in place in the jig slot. If the slot is perpendicular to the body, this procedure will guaran-

tee that the stop is positioned correctly if it is simply parallel to the back edge of the body.

The shortest bent which can be assembled using this jig is equal to the depth d of the jig, being also the distance between the stop and the sander. In the case of my own jig, this is equal to approximately $1\frac{1}{2}$ ". (Shorter bents can be constructed by providing a special drawer with a stop which projects forward over the guides.) Reducing d too much compromises the jig design by not providing enough guidance or stability to the drawer.

Since the travel of the drawer is limited by the position of the sander, longer drawers must be provided to produce taller bents without repositioning the jig. I constructed a set of drawers equal in length to $1\frac{1}{2}$ ", 2" and $2\frac{1}{2}$ ". This set allows bents to be constructed from approximately ten feet to approximately 25 feet high without repositioning the jig on the sander table. (This is in HO scale.)

To use the jig, it is first clamped to the sander table perpendicular to the sander belt/disc. Over-length stripwood pieces are sanded on one end, one by one, by use of the appropriate guides. The pieces are then turned end-for-end and reinserted together in the jig. The appropriate drawer is slid into the slot and slowly pushed forward to contact the longest over-length column. Continue pushing the drawer forward until all of the columns are contacting the stop; the columns will then all be of equal length. If desired, a specific length (height) can be obtained by continuing the sanding until it is reached.

Trestle bent jigs

A fixture for making identical timbers/Jack Burgess

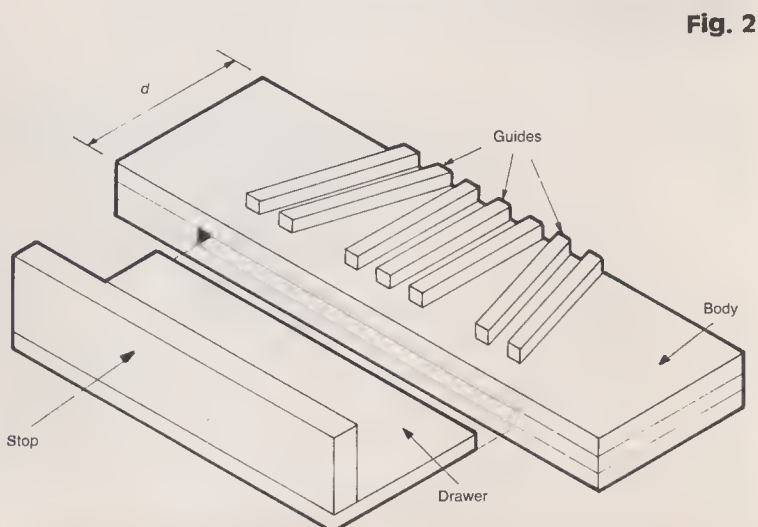
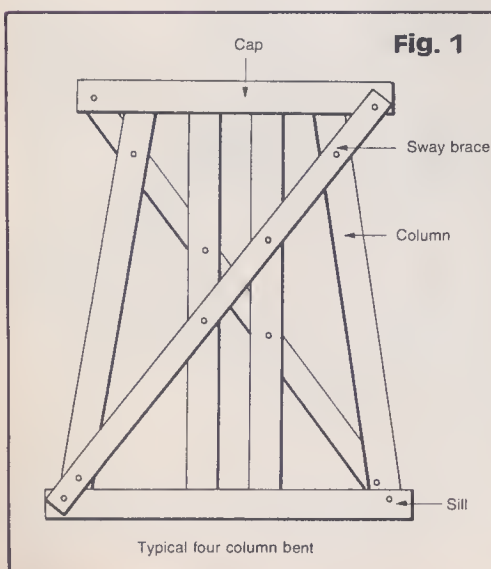
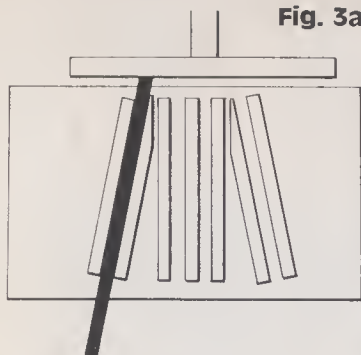
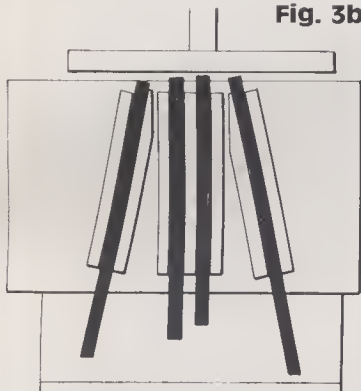


Fig. 3a



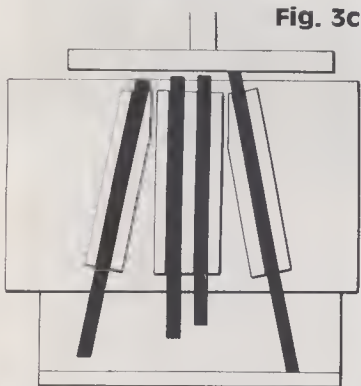
Stripwood pieces are inserted in the guides and one end is sanded to the proper angle.

Fig. 3b



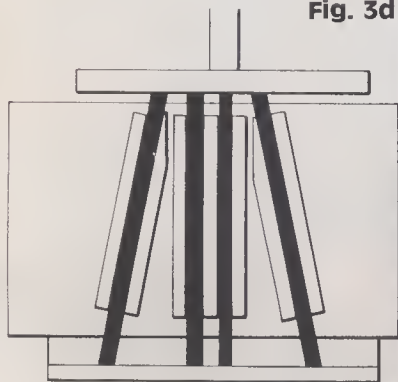
All of the columns are turned end for end and re-inserted in the jig in order to sand the opposite end.

Fig. 3c



As the drawer is pushed forward, the individual columns contact the stop.

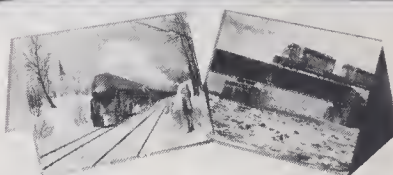
Fig. 3d



Once all of the columns have contacted the stop, they are the same length. Continuing to push the drawer forward will result in specific length bends.

Christmas Cards

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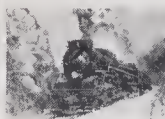
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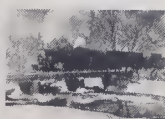
T-101 C&O



T-102 ERIE



T-103 NEW YORK CENTRAL



T-104 CANADIAN PACIFIC



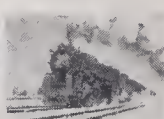
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T-110 UP TURBINE



T-111 BOSTON & MAINE



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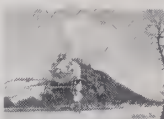
T-115 EL ELECTRIC (photo)



T-116 BALTIMORE & OHIO



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T-118 SOUTHERN



T-119 SUSQUEHANNA



T-120 DELAWARE & HUDSON

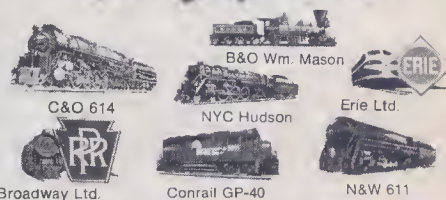
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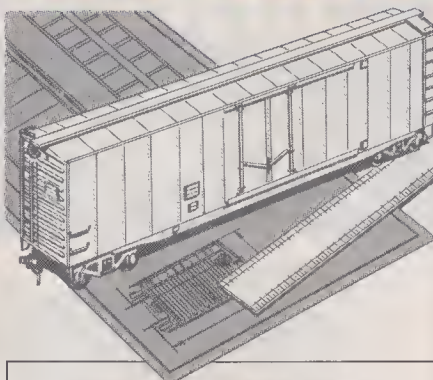
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|-------------------------|-------|
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product reviews

Sand house and bucket crane: HO scale

Mfd. by Sequoia Scale Models, 2470 B. Glassell St., Dept. C, Orange, CA 92665.

Every now and then a kit comes along that just glistens with a "backwoods-railroady" flavor, the kind of kit that makes you feel like drawing up a chair to the old work bench and doing some serious model building. The sand-

house and bucket crane offered by Sequoia Models is just such a kit. It measures only 5" x 2 1/4" in HO scale (it also comes in O scale), and can be installed on a very small chunk of real estate. The model is based on a design by Irv Shultz, written up for *Model Railroader* in 1969.

The kit features specially-cut wood, bagged for identification, from Kappler Mill & Lumber Co. The wood supplied is of the highest quality and most of it is cut to length. The O scale version includes some very realistic wood shingles, also by Kappler, while the HO version uses Campbell shingles. All of this, plus some really fine metal castings make the kit a real eye pleaser.

Before actually assembling the various parts, I spent some time preparing the wood. This involved distressing the individual wood parts to add a little more grain and at the same time achieve a weatherbeaten look. I personally think that this kind of structure lends itself nicely to the type of finish which results in a run-down, in need of patching up building.

The wood was distressed by dragging an X-acto saw blade back and forth on both sides of the wood, being sure not to press too heavy on the wood surface. Some of the wood was given a treatment with a wire brush and an X-acto blade, the latter being used to create splits, knotholes, etc. After the distressing



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procedure is finished, most of the fuzz raised during it can be removed with some steel wool. This may seem like a tedious and very time-consuming job, but the work seems to go quickly once it's actually undertaken. Work on a few pieces for awhile, take a coffee break, and work on a few more pieces and soon the effort will be over. Then you can move on to actually staining the wood. I used an alcohol-based stain on this particular model because it doesn't seem to warp the wood as a water-based stain sometimes will. If a water-based stain is to be used (such as A-West's Weather It), weights will have to be employed to hold the wood flat while it is drying. For gluing the wood to wood, a good brand of white glue was used. White glue will penetrate the wood to obtain a tighter bond than tube cements. For wood to metal, a good cyanoacrylate cement will do the job nicely.

After the stain has dried, the sand bin was the first item to be constructed, utilizing the template provided. Double-stick tape was used to hold everything in alignment over the template sheet and, while this assembly was drying, the soft metal castings were readied for painting. The castings were cleaned in alcohol prior to airbrushing to insure good adhesion of the paint. Most all of the metal parts were airbrushed Floquil Grimy Black, except the sand bucket, the lampshade and the electrical components. After the Grimy Black had dried, I mixed some dry powdered paint (burnt sienna) with some thinner to create a very thin rusty looking wash. This was applied to the metal parts. Another method is to dust on dry color or pastels, and then apply thinner with the tip of a brush or small eyedropper. This causes the rusty color to run and spread, thus creating the look of rusty metal. This technique is at its best when used subtly. It's sometimes easily overdone. These castings were then dry-brushed with white paint to bring out the excellent detail on them.

The next logical step was to construct the drying shed which, like the sand bin, is constructed board-by-board over the templates provided. Most of the wood was precut; the major trimming needed here was on the framework for the walls. Again, double-stick tape was utilized over the template to hold everything in alignment. Any residue or bits of tape left on the parts after drying can be removed by the careful use of a knife blade. The boards on the back wall were purposely spaced a little far apart to let a little light pass through them for some character. Before the drying shed walls were assembled, I added some weathered posters to a post on the front wall. These were not included in the kit.

The instructions were followed for the most part, and they seemed to be in a logical order. After the shed walls were assembled, the stove and its related parts were installed, and then the roof was constructed. Most of the shingles were left off the roof to give the structure a greater weathered appearance. The Campbell shingles were placed at random here and there to create this effect and stained a light gray. There are special instructions provided for folks building the roof on the O scale version and, as mentioned before, Kappler shingles are used on the larger model.

With the roof completed, the interior of the drying shed was detailed before actually attaching the roof to the walls. Coal was added to the small coal bunker, sand was scattered on the floor, and various tools were left about to complete the interior. The roof was then positioned in place and glued to the walls. The

instructions actually call for the stove to be installed after the roof is in place, but I found it easier to install the stove first, minus the smoke pipe and then fit on the roof.

The crane and platform were assembled according to the instructions. I elected to make the platform and crane parts inoperative, although the kit is designed for them to be operative if the builder so desires. The boom rotates 180° around the jib and the platform can be raised and lowered. The instructions even go so far as to suggest a method for running thread under the layout and attaching it to the model to make the parts operate. Another option is to glue the platform in the raised position to clear locomotives or, as I did, glue the platform in the down position and place the crane back farther from the track.

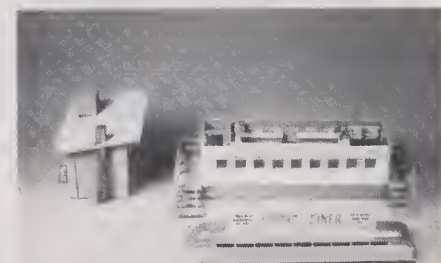
A neat feature of the kit is the ladder, which has been constructed for the modeler. All he or she need do is stain or paint it and then secure it to the crane platform.

This kit is a lot of fun to construct, and despite its brief size—it's loaded to the brim with details, especially the crane assembly. I think it deserves a place on the layout reserved for an eye catching model. The model requires about a week of evenings to construct and the price is \$14.95—MALCOLM FURLOW.

Donna's Diner: HO Scale

Mfd. by Campbell Scale Models, P.O. Box 121, Tustin, CA. 92680.

Donna's Diner kit, No. 432, is similar to roadside diners that were found across the country, especially during the 1920's and '30's, and some may exist even today. They were often located near railroad yards, and one could go there to have a relatively inexpensive meal.



Campbell Scale Models made use of a Model Die Casting coach as the basic structure for this kit, added a small kitchen attached to the back, end porches and other extras to make it a most interesting top quality kit. The kit also includes corrugated aluminum for siding and roofing on the kitchen, basswood strips and scribed siding, plastic bar stools and cooler, various cardstock templates, and a host of cast-metal interior details. Complete assembly instructions, with scale drawings, are also included.

The HO scale drawings show all sides of the diner in detail, along with a floor plan for locating interior details. All parts on this sheet are number coded to match them to the assembly instructions. The latter are most complete and include an exploded drawing of the diner, as well as a photo of it.

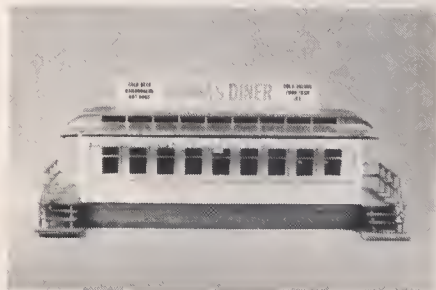
Very few tools are needed to assemble this kit, and I found a sharp, single-edged Gem blade best for cutting most of the stripwood. Other tools and materials used were a razor saw, miter box, fine sandpaper, Testors cement for wood, Walthers goo, white glue, a

straight edge, and Testors Dullcote spray. I brush-painted most parts with Floquil. All of the plastic parts and the interior of the coach were first painted with Floquil R19 Barrier. The corrugated aluminum was sprayed, as instructed, with Dullcote before painting so that material would hold the paint better. The coach is already prepainted white with a silver roof, but it may be repainted if desired.

Following the 17 steps of construction, the model can be built in about two evenings. Each step lists the parts to be used for that particular step by part number, size when appropriate, and part name, a practice that helps leave little chance for errors. Construction begins with the platform on which the coach rests, followed by the stairs for which plastic stair stringer material is provided. Next comes the platforms and landings with their posts and railings.

The interior details are made and added in the next step; installation of the acetate for the windows follows. A template is provided for cutting it to the proper size. I found it easier to place the sheet of clear acetate over the template, then outline the cutting lines with a ball point pen, making the cuts with a blade and straight edge. When installing the acetate for the coach windows, be sure not to get it so high that it interferes with the roof. Interior lighting suggestions are given in the instructions.

Construction of the kitchen is done using cardstock templates and corrugated siding material. Good information about the corrugated aluminum siding and its application and painting is given. After the kitchen section is completed, it may be permanently glued to the coach, or to the coach roof only, thus allowing for the removal of the coach roof for viewing the interior. The latter course would be prudent if lighting is used.



The sign and awnings complete the details. This printed material is nicely done and does help to add much color and character to the diner. Some additions could be made, such as some patrons and cars, to complete the overall scene. For the purpose of this review, I did not weather the model, but this would be recommended and should be done to some degree (but not over done).

With good parts and instructions to work from, I found this kit a pleasure to build. On the drawing sheet Fig. 5 showed the B3 counters a bit longer than shown in the plan view beside it. However, this is not a problem since there is still adequate space between them when assembled. This is an excellent kit and certainly adds much interest to the railroad model scene. The complete kit is priced at \$14.95—JULIAN CAVALIER.

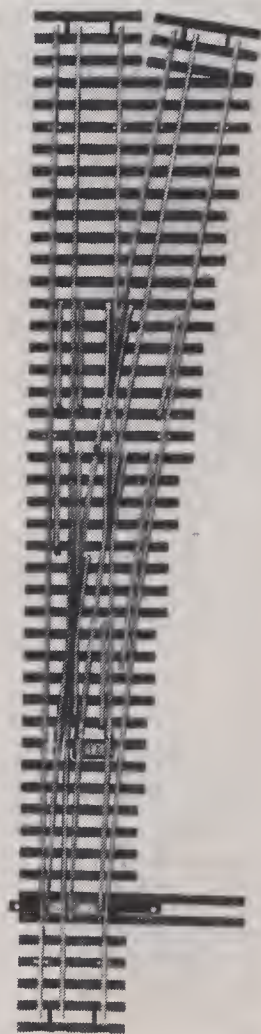
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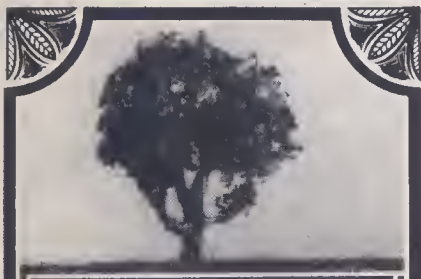
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
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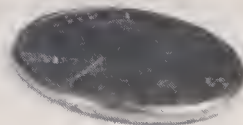
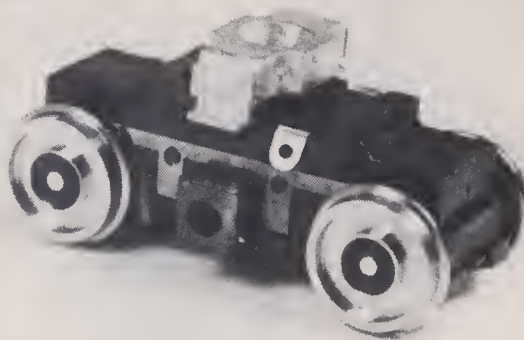
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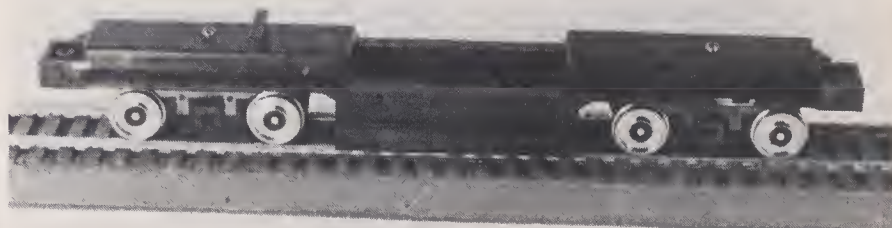


times they start when someone has a problem. Jim Tangney builds fine prize-winning trolley models in HO. How do you put an interior in a trolley when most of the inside of the car is full of motor? Jim decided to do it like the prototype. He would build the motor into the power truck. In 1970, there were no fully-underfloor HO power trucks available, so Jim scratch-built his own. The small gear teeth were cut using a 2-56 tap. The worm was a 2-56 screw attached to the motor shaft. Jim's work was good enough to win him Best of Show at the 1970 PCR Convention in Palo Alto, California.

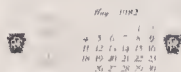
I do not know if it was Jim's idea that got Tenshodo started building self-contained power trucks. What I do know is that now it is possible for anyone to build powered models that were only a dream a few years ago. This new unit is called a "SPUD," for Self-Propelled Universal Drive. The SPUD opens up a number of new ideas. Now you can fully-detail the cab of a diesel locomotive without interfering with the motor or drive mechanism. The air intakes in locomotives like the GE U-boats and SP's SD45T-2, where you can see right through them and out the other side, can be modeled. This will allow a "diesel engine" casting to be added under the hood of a locomotive and you can leave a few of the side panels open for inspection. The interiors of powered rail cars and interurban cars can be installed. The SPUD will let you power a ten-

der behind a very small steam locomotive with a detailed cab. After reviewing a number of carrier control systems, I feel that the SPUD unit will be a big boon to carrier control systems and sound systems. The one big problem installing either sound and/or carrier control systems in a locomotive is fitting in all of the electronics and the speaker. There are only a few HO engines that are big enough and have the room to be able to just drop in a carrier control throttle (receiver). This problem is at its worst with small diesel switchers. The standard cure for this problem (before SPUD) was to add a dummy diesel for the electronics behind the powered diesel.

SPUD comes in three different styles. SPUD "B" has 40-inch stainless steel wheels with a 9-foot wheelbase and is intended for use in B-B HO diesels. SPUD "P" has the same 9-foot wheelbase, but used 36-inch nickel-plated brass wheels. SPUD "T" has the 36-inch wheels, but the wheelbase is 7.5 feet. All three styles use a small motor with a shaft at both ends mounted between the wheels with worm gears on each end. The worm gears drive mating spur gears on both axles. Power pickup is done by all four wheels by means of a slider on the back side of the wheels. The wipers on each side transfer power to another strip of metal that is connected to the motor. This arrangement allows the current path from both sides of the truck to be broken before the power gets to the motor. PFM sells a



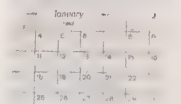
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copper-clad Mylar strip (PFM-22) that allows you to interrupt the power to the motor. This is done by cutting a small strip of the copper-clad Mylar and sliding it down between the wiper pick-up and motor contacts. One wire is soldered to the terminal on the top of the SPUD and the other wire is connected to the copper side of the strip. This feature allows the power from the rails to be fed to the carrier control receiver, and then the "controlled" power is fed back to both terminals of the motor. Many of the constant lighting systems require the light circuits to be wired in series with the motor(s).

You might get away with a single unit in a small trolley or interurban car that will not be pulling a big load. PFM recommends that you use two SPUDs for a diesel locomotive.

The SPUD unit comes with a few pages of instructions that show you how to convert a number of the standard HO diesel locomotives. PFM can also supply a styrene bolster adapter for easier installation in some locomotives. The SPUD has no side frames, but does come with sideframe attachment yokes that allow you to cement or use a screw to install the correct side frame to the truck. The instructions also cover this operation. The wiring of constant lighting is also shown in the instructions.

To test the two SPUD "B" units, I first installed them under a GP35 frame. The instructions recommend that you add weight to the locomotive until it weighs between twelve and 20 ounces. A weight was added to the frame to bring the total weight up to about 16 oz. After the weight was added, the unit was given a short break-in. Then the following tests were run:

	Volts	Amps	Scale m.p.h.
SLOW SPEED			
Pulse	0.431	0.034	0.16
Pure d.c.	4.0	0.205	14.8
FAST SPEED			
Pure d.c.	12.0	0.297	141

The speed is a bit on the high side. This is not surprising with the high gear ratio between the motor and axle. The slow speed also suffers a little from this ratio. The total weight of each SPUD is about 18 grams. With both SPUDs installed and weight added, the total weight for the test was 465 grams (16.4 oz.). With this weight, the draw-bar pull was 87 grams (3.06 oz.), for a traction adhesion efficiency of 18.7%. The wheel gauge of all four axles were checked with an NMRA HO standard gauge, and they were all OK.

The next test was to put it on the layout. The unit ran well at medium and high speeds. At slow and very slow speeds, operation was not smooth. The locomotive seemed to surge at them. One thing that is different is the sound; the only thing you hear is the wheels on the rails as the SPUDs glide along. I cou-

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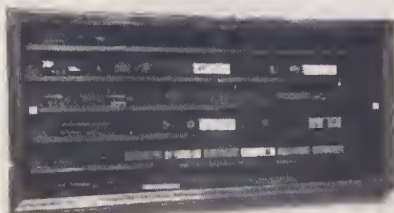
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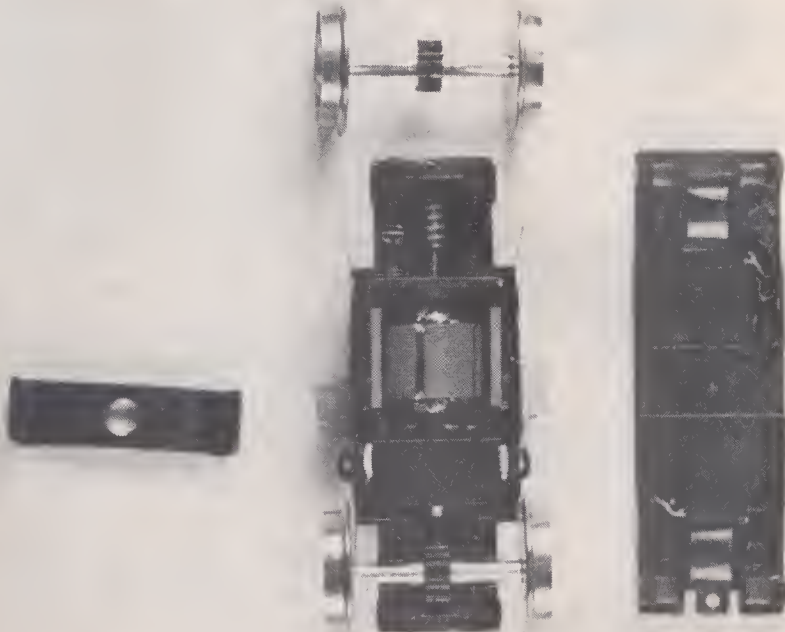
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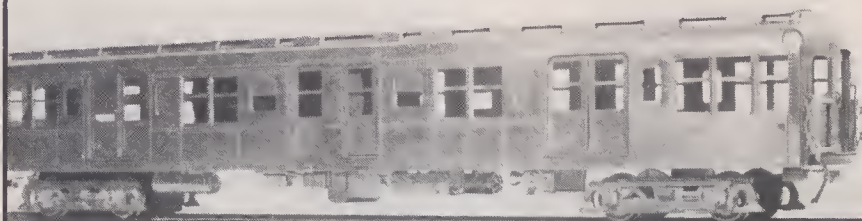
pled onto a string of freight cars and started out on a trip over my mainline. The locomotive pulled on the grade very well and only increased speed a slight bit on the way down the other side. I did find one problem—I forgot to throw a block toggle switch, and the lead truck rolled into a dead block. Since the two SPUD units are independent, the lead unit stopped but the rear unit kept running. An easy cure for this would be to tie the electrical pickups of both trucks in parallel. Then both trucks would continue to run until they were both in the "dead block". Then the SPUDs were put to work switching in my Sierra Western yards. The performance at this task was more than satisfactory.

The next test was to try the SPUD units with a carrier control system. A Keller ON-BOARD throttle and sound system was installed. Normally, this system is installed in a dummy unit, two wires run to the motor in the powered unit, and then the two units are run together as a pair. With the SPUDs, I was able to build an all-in-one locomotive. I used a special frame that had a cutout for a speaker in the fuel tank. All of the electronics fit in the GP35 body shell, and the motors were in the SPUDs under the body. Kemtron brass sideframes were added to the SPUDs. These side-

frames mount with a single screw and fit the yoke on the SPUD without any changes. Plastic sideframes can easily be attached to this yoke with cement. The instructions show a number of ways of doing this. Once together, the GP35 was put on the layout and the forward button pushed on the handheld keypad. Just as Murphy's Law would have it, the locomotive started to run backwards. Reversing the two wires from the throttle unit to the motors corrected the direction problem. The "all-in-one" was put to work on the layout. The total weight was only 7 oz. and the locomotive would not pull as well as it did with the heavier weight. Adding weight corrected this. Many locomotives make so much noise that they drown out some sound systems. The SPUD's quiet operation allowed more of the sounds from the speaker to be heard. Another problem that many sound systems have is electrical noise caused by power pick-up from the wheels or the motor brushes. SPUD was clean on both counts. The power pickup system on the SPUD worked very well. The locomotive still ran a bit fast at top speed, though. The two SPUD motors were wired in parallel and the top speed was 114 scale m.p.h. Someone suggested that the two motors could be wired in series for a slower top speed. This was



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worth a try, so I rewired the unit and the top speed dropped to 33 scale m.p.h. This was certainly slower, but a little too slow. The slow-speed operation with the series wiring was about the same. I went back to the parallel wiring and eased up on the throttle to keep the speed down.

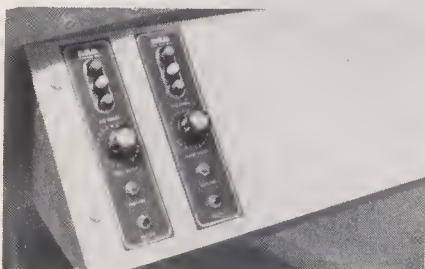
The locomotive still had a slight tendency to surge at slow speed. Adding weight to the locomotive and/or pulling a string of cars resulted in smoother operation at slow speed.

If you have an idea for a model that would use an under-the-floor power truck, you can now put that idea into action. The cost of the "B" SPUD is \$22.50 each, the "P" is \$21.00 each and the "T" is \$19.50—DON FIEHMANN.

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Few decisions in model railroading require as many compromises as the choice of train control systems. Most modelers can find sufficient justification for their choice of scale, era, prototype (if any), setting, even layout configuration. Usually, the factors of money, interest and available time narrow these choices to a manageable few. However, sooner or later, the decision of train control arises. Are standard d.c. power packs sufficient, or do sophisticated "transistor throttles" seem mandatory? What about sound with self-contained systems such as Modeltronics or a total system such as that made by Pacific Fast Mail? Should one opt for carrier control or conventional systems? Are tethered walkaround controls or fixed throttles preferable?



The e.d.a. Block Selector Panels mounted on reviewer Jack Burgess' control panel let the operator lock a given block onto his train; Auto-Cab then keeps power (block assignment) locked to the train depending on direction selected and positions of turnouts encountered enroute.

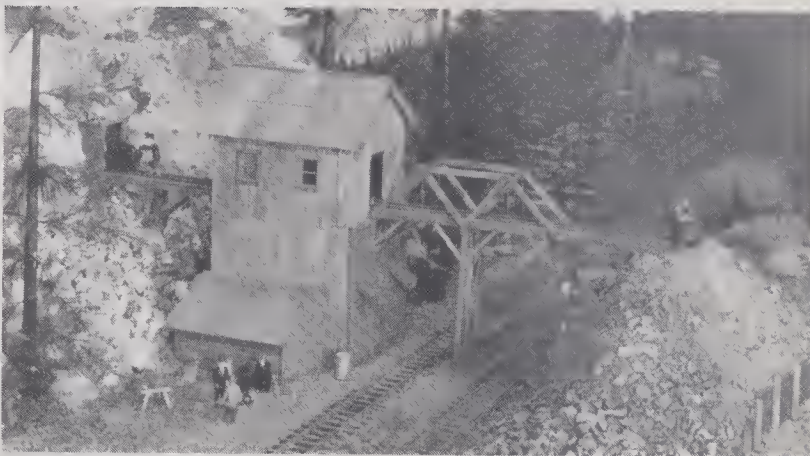
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Lately, a lot of train control discussions have revolved around carrier control systems, pioneered by the former GE Astrac in the early 1960s. With these systems, train direction and speed information in the form of high-frequency or digital control signals are generally superimposed on constant-voltage propulsion power and passed through the running rails to a receiver in each locomotive. Each receiver is tuned to a specific frequency or digital code and responds only to a set of instructions transmitted on that frequency or code.

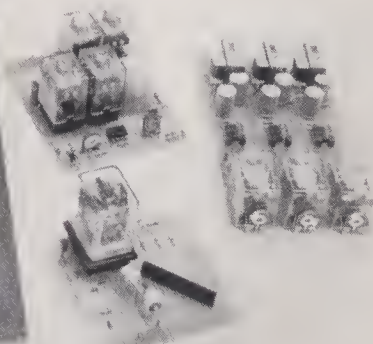
While carrier control has many advantages, most notably simultaneous control of different locomotives on the same section of track, it also has its limitations. With the exception of Keller Engineering's On-Board system, which includes sound, present carrier-control systems are incompatible or compete for limited body shell space with most of the self-contained sound systems; none allow the use of the PFM system. Receiver size for carrier-control systems is often (but not always) a problem with N scale, HO_{N3}, and smaller HO engines such as 4-4-0s and 2-6-0s. Carrier-control systems do not allow use of the exotic throttles such as RMC author/consultant Don Fiehm's SST/7 or SWAC/2. In addition, carrier control can become expensive for modelers with

large motive power fleets, since each locomotive must be equipped with a receiver as the roster grows. This requirement also makes it difficult to allow visitors to bring their own motive power to operating sessions if that is allowed.

Still, the drudgery of sitting at a control panel unprototypically flipping block toggle switches for the operators demands a better solution. Walkaround control has at last made obsolete the old concept of engineers sitting at remote, even elevated, control panels, but the problem of electrically connecting a given walkaround throttle to a specific section of track—and hence a locomotive in it—remains.

One very good solution to this problem lies in progressive cab control. This idea has been around since the introduction of route cab control in the early fifties. However, until the introduction of the e.d.a. Auto-Cab, only a few layouts in the country have included progressive cab control—and those systems have been custom designed and built by their owners.

The e.d.a. Auto-Cab progressive cab control system utilizes conventional electrical blocks or track sections. Any conventional, walkaround, and/or transistor throttle can be utilized with the system. There is no limit to the number of blocks, number of cabs, or



From left are the Auto-Cab installation manual, the Detection Module, the PCC Module (below it), and the CED Module, as explained in the review. System allows independent train control without any locomotive modifications or additions or the need to manually throw block/cab selector switches as train moves.

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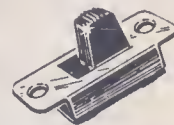
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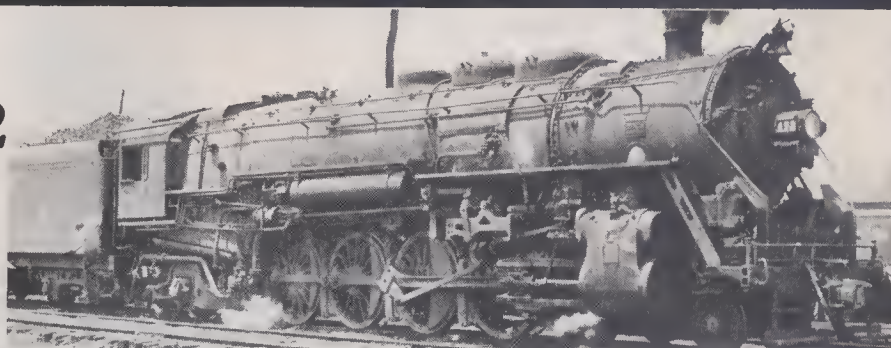
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layout design. The system is also compatible with the PFM and other self-contained sound systems. Since modification of locomotives is not required, locomotive fleet buyers need not temper their buying habits.

Progressive cab control (PCC) is basically a simple idea. After installation and set up, by using information from block detectors and the throttle's direction switch, the system automatically connects each cab to the block occupied by the train. At the same time, it automatically connects the cab to the adjacent block in the direction of travel (assuming that it is not already in use). At block limits with multiple routes (such as at turn-outs), the system will select the proper route/block from information regarding switchpoint positions. As the train proceeds from block to block, blocks behind the train return to unassigned status. The connection of a block to one cab prevents connection of the same block to another cab.

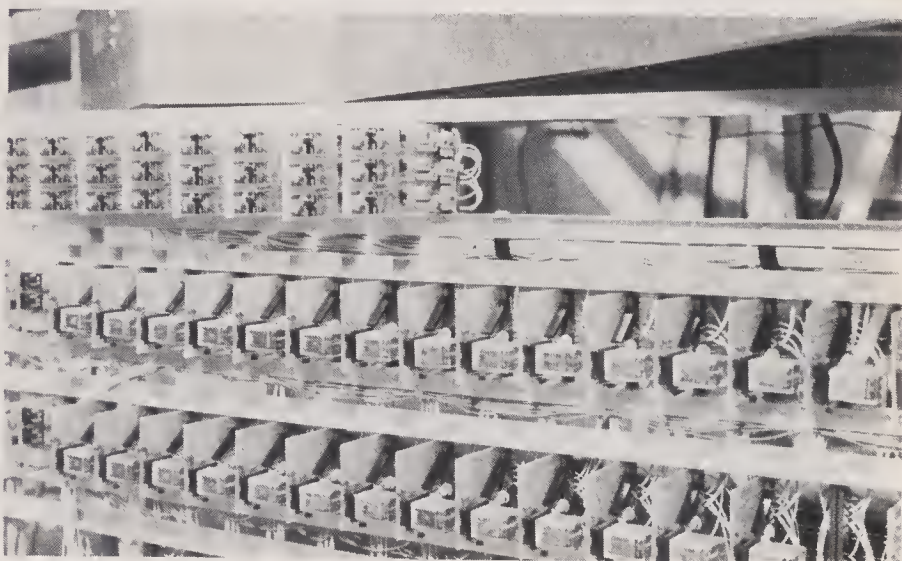
Status of route assignment is shown by a set of green, yellow and red cab signal lights. These lights indicate to the operator whether he may proceed into the block ahead. Cab signals can be installed at the throttle along the front panel, overhead, or any other convenient location. You can also purchase from e.d.a. a disconnectable walkaround transistor throttle which incorporates the cab sig-

nals on the throttle case. However, use of their throttles is not mandatory. Optional modules are also available from e.d.a. to produce more prototypical trackside signal indications. Block occupancy indications are another standard feature of the system.

The Auto-Cab system is a modular system using three basic component-mounted printed-circuit boards with slip-in edge connectors for mounting in a rack (constructed by the owner). These components include detector modules (one detector required per block, with three detectors built into each module), "CED" modules (one required per cab), and PCC (progressive cab control) modules (one module required per block, per cab). Additional supplemental modules are required for reversing loops and for blocks with more than two divergent routes in either direction from any one block.

Most occupancy-type detectors can be used for the system in lieu of the e.d.a. detectors; directions are provided for this substitution. In addition to these modules, a Block Selector Panel is required for each cab. This panel provides for "initialization"—that is, for the engineer to dial a block that is not in use and "lock on" to the locomotive in that block.

The components used for the modules are of good quality, and the system is cleanly designed. Except for the PCC and trackside



Here's the customary "scare" photo that shows the equipment rack. Detector Modules are mounted in upper row, while the PCC Modules for Cabs 1 and 2 are in the next two rows. Wiring is not overly complex but merely repetitive; the same basic steps are done for each cab and block. Neatness is not required but will be a help if troubleshooting is required in the future when details of wiring are not fresh in mind.

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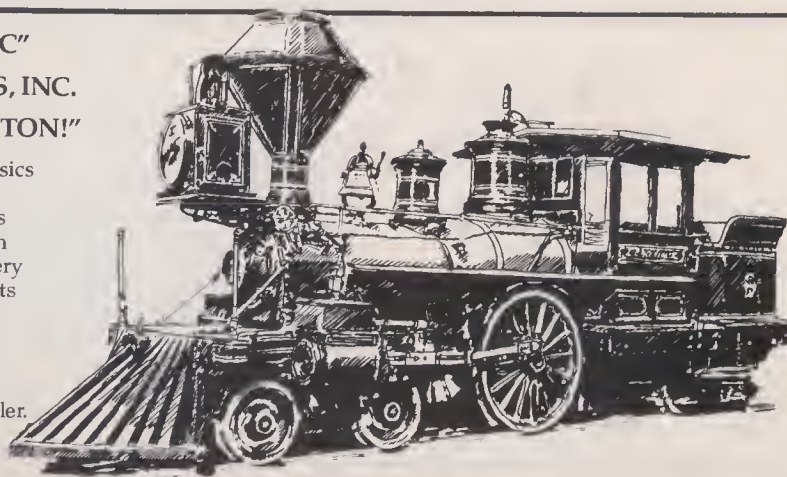
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signal modules, all modules are supplied assembled and tested by the manufacturer. Assembly and soldering of the other modules is simple and straight-forward.

In addition to the solid-state components, the system does use relays. This feature admittedly raises eyebrows in this generation of solid-state devices. However, the choice of relays in lieu of solid-state devices, such as triacs, was a cost-saving decision. The relays also provide total isolation of the train power from the Auto-Cab circuits.

To test the Auto-Cab system, I installed it on my a-building HO scale Yosemite Valley Railroad (see the trackplan in November 1980 RMC). Although not all track was finished, approximately one-half of the 190-foot main line was in place to evaluate the system. The final layout will be divided into 23 blocks (nine are now operational). Provisions were made for ultimate control of four main line cabs; three cabs are hard-wired at this time.

Directions for installation of the system together with a description of the circuits and theory of operation are presented in an Auto-Cab manual authored by the designer of the system, Kermit Paul, Jr., of the Sacramento (Calif.) Model Railroad Club. While the manual is very well written and complete, a first reading of it can instigate a severe case of procrastination. The system is complex, and I admit that until I completed installation, I hadn't completely deciphered the theory. However, once you've gone through the actual wiring and interconnections, things will start to make sense.

The Auto-Cab manual covers wiring of the system very well. After construction of a sufficiently large rack, the module edge-connectors are interwired through a matrix wiring system. This matrix consists of horizontal wiring between modules of the same cab, vertical wiring between modules of the same block for different cabs, and program wiring. The horizontal and vertical wiring is standard for all layouts—the program wiring “customizes” the system for the actual layout design and can be changed as the layout changes. For large systems, this wiring is time-consuming; I spent probably ten to twelve evenings wiring my rack for three cabs and 23 blocks. Neatness is essential (as well as satisfying) for this wiring—I probably spent 25% of my total installation time on maintaining the neatness of the wiring runs, time that will be repaid when troubleshooting is required.

In addition to the system components

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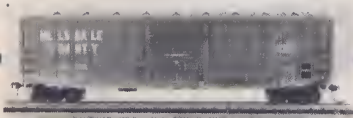
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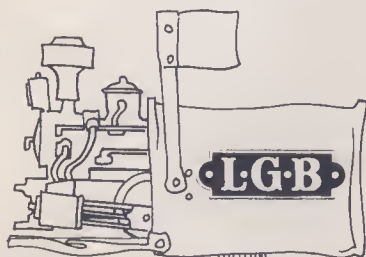
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available from e.d.a., you will need a pair of diodes for each block as part of the detector system. You will also need a power supply for the detectors (18 volts d.c. for e.d.a. detectors), plus an 18-volts a.c. supply for direction-of-travel information and an 18V d.c. supply for the Auto-Cab system relays and logic. Optional LEDs (light-emitting diodes) can be added to the PCC modules to indicate cab assignment; these are nearly essential during debugging and also help visiting engineers understand the system and operation. All of this is explained in the manual.

While the final installation appears extremely complex, once I had remembered to complete several wiring connections, the system worked as expected when it was completed and turned on. Debugging is much easier than it looks because of the modular design. Faulty boards or wiring can be quickly isolated by switching modules with known working modules; if the problem doesn't move when you move a module, the problem lies in the wiring. Author Paul also includes a comprehensive troubleshooting guide in the system manual.

Control panels for progressive cab systems are reduced to simplicity itself. Mine consists of the Block Selector Panels for each cab together with a list of blocks that have LEDs showing occupancy—no toggle switches, layout diagrams, and so on.

The complexity of the progressive cab control system installation provides a sharp contrast with the simplicity of operation of the completed system. From the control panel showing block occupancy, an operator dials a block with the selected locomotive using the appropriate Block Selector Panel for his cab and pushes the "lock" button. Cab signals on the panel will indicate whether the lock-on was completed, in addition to indicating the status of the lock-on. A green signal indicates a lock-on to the occupied block plus the block in advance of the train.

From then on, the system automatically assigns blocks as needed. An operator need only keep an eye on the cab signals. He need not worry about block limits or correlating train location vs. toggle switches on a control panel. Visitors can plan passes and meets by assuming standard block limit policies at places like passing sidings, yard limits and so on. An optional module provides automatic train brakes so one or more trains can run unattended for breaking in locomotives or shows and the like.

Current prices for the e.d.a. Auto-Cab components are as follows: Op-detector (three per module), \$31.95; CED Module, \$27.95; PCC Module, \$11.95 (\$9.95 undrilled); Block Selector-Cab Signal Panel, \$14.95; and Reversing Section Module, \$14.95.

The cost of an e.d.a. Auto-Cab system depends on the number of cabs and number of blocks. A typical two-cab, nine-block layout without reversing sections will require two Block Selector Panels, three e.d.a. Detector Modules, two CED Modules, and 18 PCC Modules, plus power supplies, diodes and wiring supplies. Total cost of the e.d.a. components for this system would be approximately \$400.00 (less if economy PCC modules are used).

All components are distributed only through The Whistle Stop in Sacramento, California. The 54-page Auto-Cab Manual describing the operation and installation of the system is also available through The Whistle Stop for \$4.95 (California residents,

please add sales tax). If you are interested in this system, I highly recommend that you get a copy of the Auto-Cab Manual—JACK BURGESS.

Quick's Coal: HO scale

Mdf. by: Campbell Scale Models, P.O. Box 121, Tustin, CA 92680.

It is difficult, at this time in our history, for most of us to conceive of the importance of coal as a home heating fuel, even into the mid-1950's, since so many of the coal dealers' buildings have been demolished. The next time you go out on a data gathering or railfan trip, take the time to look at those structures still standing. You may find one of the concrete multi-silo structures, and it will probably be in a surprisingly small town. When you consider the cost of erecting one of these structures, you begin to get an idea of the importance of, and profit in, coal. The concrete ones often remain because of the cost of razing them.

Campbell's Quick's Coal is a model of a prototype that stood in Cheyenne, Wyoming. It is one variation on the once-common wooden coal bunker and would fit just about any town on your layout.

The kit is made up of Campbell's milled soft pine strip and sheet wood, cast plastic doors and windows, NBWs, smoke jack, square brass tubing for the coal chutes, chain, corrugated aluminum roofing, shingle strip, heavy card for the roofs, and various pieces and parts for details. The parts came packaged in four poly bags for the major sub-assemblies, which simplifies construction.

The instructions consist of a page of written instructions and two sheets of detail and elevation drawings. Follow them while building the kit and you will have no trouble.

I began construction by staining all wood parts, except for the office, with A West's Weather-it, being careful to keep each bag's contents separate. For the actual construction, I followed the instructions and had no



problems doing so. There are a few cautions I would give you to ease the construction, however.

In step one, Campbell cautions you to be sure to cut one right and one left side wall. I, of course, read this and immediately cut two right walls. Watch yourself here.

In step two, be especially careful in selecting and applying the wall studs and beams. There are enough pieces to get the right piece in the wrong place. I used the brass coal chute stock as a spacer to make sure beams A10 would be spaced right.

The piece for wall A5 under the coal chutes was 5 9/32" long, rather than 5 9/16". I added "nails" using a scribe, centered wall A5, and added a piece of stripwood behind the wall at each end to avoid the appearance of the board ends hanging in mid-air.

The only point where I disagreed with the instructions was in adding the roof to the



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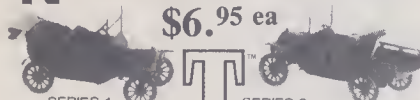
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bunker before the cable system was threaded through its pulleys. I threaded the cables before adding the roof and, at the same time, chose to have the coal bucket hanging where it could be seen. After the cable was in, I coated the thread with flat finish so it would not twist above the bucket.

I found that cutting the corrugated aluminum into individual strips before applying them led to a too-dilapidated look. I applied the aluminum to the roof cards in one piece and then, using a sharp Xacto No. 11 blade, I scribed a seam every three feet and brushed on two coats of Floquil reefer gray. After the bunker was complete, I weathered the roofing with powdered charcoal gray chalk.

The door and window provided for the hoist shanty did not look right to me, so I substituted a window from an MDC building and a plain door out of my parts box.

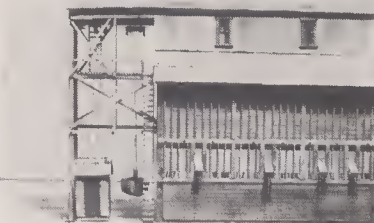
The dump pit is very nice and a neatly thought out bit of construction. I saved the drilling templates and intend to use this approach for further projects. After the pit was assembled, I painted the frame Floquil Concrete and then painted the I beams and cross rods with a mixture of Floquil Rust and Gunmetal for a dark rust color.

The office was a simple assembly project. I painted it with Floquil Depot Buff with German Field Gray trim. Do not let yourself be limited to "railroad" colors for buildings, vehicles, figures, etc. I always keep a stock of Testor's and Pactra's flat and military flats on hand. The different colors and shades can be a great asset.

Ever since Dave Frary mentioned it in a review, I have used Floquil Foundation as a primer and as a foundation for further color-

ing. The coal bucket was so primed and it enabled me to color the bucket with washes of dark rust and get the multiple shading of colors that I wanted.

Quick's Coal has been available for quite a while. It is a fun kit that provides hours of construction enjoyment and a very attractive useful structure when completed. It sells for \$24.95—JOHN SWANSON.



Peaked-end hopper car: S scale

Mfd. by "S"cenery Unlimited, 310 Lathrop Ave., River Forrest, IL 60305.

Until recently, S scale modelers had to be satisfied with conversions of old American Flyer twin and triple hopper car bodies or resort to scratchbuilding to obtain coal-hauling equipment for their railroads. Now something quite different is available in kit form—the peaked end, outside-ribbed steel hopper car.

This model wasn't an overnight project, but when it was completed I certainly felt well satisfied with the results. However, I feel a beginner should try one of the many other simpler kits before attempting this model.

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The sides, ends and various wooden body component parts are pre-cut to size from basswood. Stripwood channel, angles and other shapes must be cut before assembly. The entire hopper body is almost completely fabricated from these wood parts and therefore is quite light in weight. However, weight can be added easily beneath a simulated coal load. Compensating for this lack of weight is the prototypical size and delicate appearance of the intricate car ends. Many models, including plastic ones, are spoiled by sacrificing small parts in this area for oversized but stronger pieces.

The hopper doors, side ribs, end "Z" braces, brake platform, brake wheel and housing, bolster plate, brake cylinder, air reservoir and brake valve are all cast from soft metal and make for easier and quicker assembly. The side ribs are pre-formed in a "U" shape and, being cast of metal, they strengthen the sides and prevent warping.

Soft wire is supplied for the brake line piping which shows so easily on a hopper car, yet

is often omitted. The flat wire supplied for the corner steps broke when I tried to form them, so I had to substitute piano wire. All grab irons must be formed from the soft wire supplied, but preformed S scale grab irons are available from Northeastern Scale Models. All wood parts (some were a bit fuzzy) must be sanded and sealed to present a smooth metal like finish. Skimping here will hurt the model's finished appearance.

The Walthers decals provided are of good quality. Two sets of numbers are supplied, enabling the builder to apply various numbers for different cars. The instructions are sufficiently detailed with full-size drawings and a photo of the prototype car to aid you in its construction. A dull overspray will hide the decal film edges and remaining wood grain texture; I had not done this at the time the photo was taken.

Trucks and couplers are not supplied but can be purchased from the kit manufacturer.

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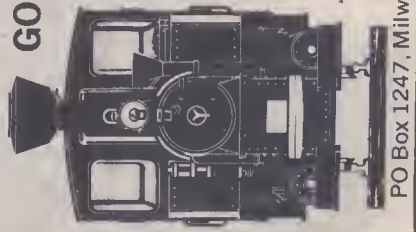
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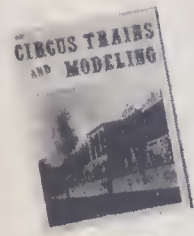
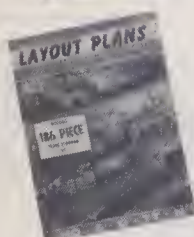
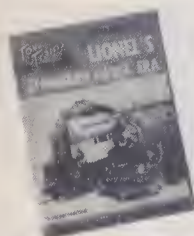
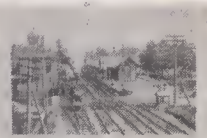
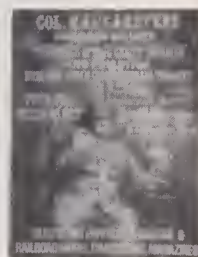
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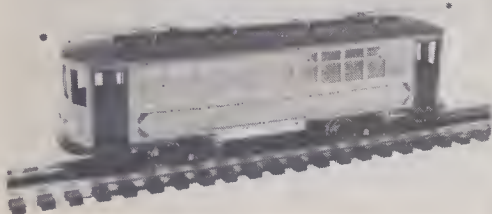
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Ready Track

product reviews in brief

C&O locos: HO scale

AHM (419 E. Tioga St., Philadelphia, PA 19134) has released a pair of locomotives which have been detailed to resemble a C&O K-2 Mikado (2-8-2) and an F-19 Pacific (4-6-2). These freight and passenger locomotives were used from the 1920s up to the end of steam power. The models are based on mechanisms and molded-plastic boilers which are already part of the AHM line, but have had certain parts changed or added to capture the overall look of the railroad's engines. While this may seem to be too much of a compromise for some modelers, it is surprising to see how well the models reflect the images of their prototypes. The alternative is likely no mass-produced plastic model of the locomotive at all.



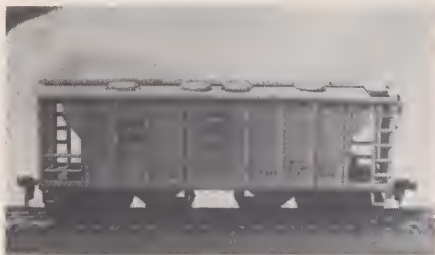
Perhaps the most striking feature of most steam locomotives is the front end. Traditional railroad photography emphasized the three-quarter "wedge" photo, so we are left with a strong impression of the location of headlights, number boards, bells and other fittings. AHM has added new detailing parts to the smokeboxes of these engines, giving them a definite C&O look. The twin pumps, low headlight and Elesco feedwater heater dominate this end, and the addition of a tender with the general shape of that used on the particular group of locomotives brings up the rear. One could make more changes on the models to further duplicate the lines of the power used on "George Washington's Railroad." Since the boilers are plastic, removing the sand domes and piping would be relatively easy.

These models are equipped with the firm's improved motor and .039" flanges; they will operate on most commercial code 70 flexible track. The list price of the 2-8-2 is \$149.98; the Pacific sells for \$198.98. Both feature AHM's usual outstanding painting and lettering—R.M.

Commemorative hopper: HO scale

The Sunshine Region of the NMRA has applied a yellow and green paint scheme to the Model Die Casting 70-ton covered in celebration of the Region's 20th anniversary. This is an unusual selection, since most such commemorative cars are specially-lettered boxcars. The home area of the Sunshine Region ships out large quantities of phosphates and other surface-mined minerals, so the car is appropriate.

About an evening's worth of work is required to get this car rolling on your layout. The die-cast underframe needs some filing, some



plastic parts must be removed from sprues and some Floquil Railbox Yellow will be required for touch ups. The car comes with horn/hook couplers and plastic trucks. The parts are to be glued and screwed together. New modelers might find the unloading door bracing a bit of a challenge; it could easily be eliminated if one chose to do so.

The cars are \$6.50 each, which includes first class return mail. Checks should be made payable to the Sunshine Region, NMRA. Include an SSAE with each order—this will be used to return money and orders if the cars are sold out. If the car is shipped, the envelope will be retained to notify the sender when a new release is ready for sale. The address is: Sunshine Region, Dept. C, 15027 S. Dixie Hwy., Miami, FL 33176—R.M.

Open-grid roofwalk: 0 scale

Quality Craft Models, 177 Wheatley Ave., Northumberland, PA 17857, has a set of plastic injection-molded roofwalk pieces that feature open grids on the walks and end platforms. Two pieces of roofwalk material, 19 scale inches wide by 37 scale feet long, and two end platforms measuring 2'-0" wide and 3'-10" long sell for \$1.95. These dimensions are similar to those shown in *Car Builders' Cyclopedias* from the era in which roofwalks were used. Quality Craft has molded a pair of stiffening ribs about one-third of the way in on the bottom of the walk; this allows a thin edge section, yet keeps the material still. Mounting bolts are molded into the walkways at three-foot intervals, simulating the locations of mounting brackets—W.C.S.

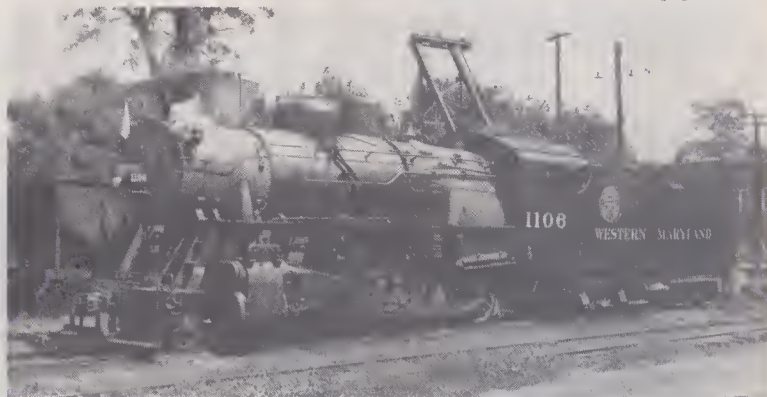


Corrugated siding: 0 scale

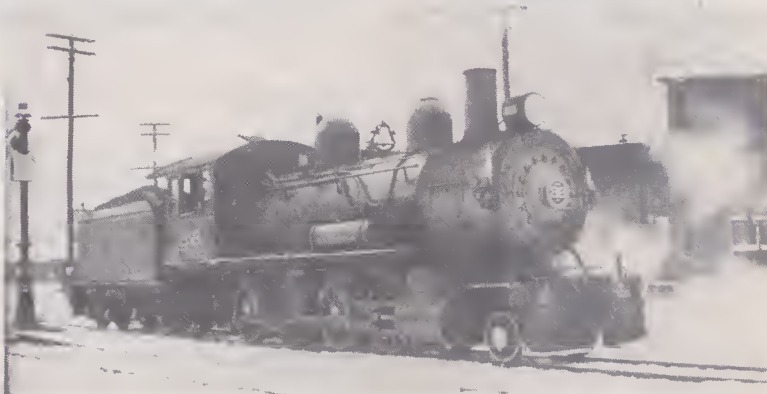
Simulated corrugated siding and roofing, made of stiff, smooth paper, is made by Simpson, P.O. Box 256, Smith Flat, CA 95727. Stock No. 109 is a package of 2 1/4"-wide thin paper that has scale corrugations embossed in it at scale 3" intervals. The paper has almost no tooth, so it should provide a realistic finish when painted; the material is strong enough to avoid being crushed easily on a model. Over ten feet of sheeting comes in the package, which retails for \$2.95. Good suggestions for painting are included—W.C.S.

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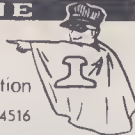
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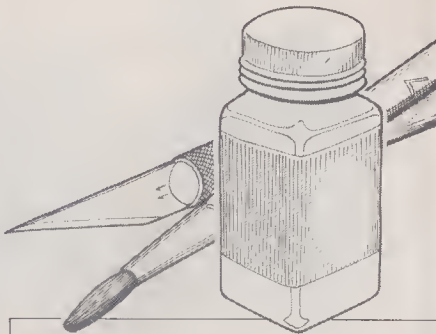
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Tips and Techniques...



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How to color and weather shingles

A roof is the most visible part of a building, so the color is very important. Most modelers use Campbell shingles and various stains to color and weather them. Through the years, I have tried dozens of stains and was never really satisfied with the results, so I developed a method that really looks good to me. Once you get the knack, it's very fast and easy to do.

Here is how I color and weather the Campbell shingles on my pilot models.

1. I prefer weathered shingles, therefore, before coloring them, I bend several of them upward using a No. 11 blade. The amount of bending you do depends on how much weathering you want.
2. Apply paint with a good 3/4"-wide soft brush. The two colors of paint I will use are Floquil Earth and Grimy Black. Use them full strength. I find full strength paint easier to control and achieve better results.
3. Using Earth first, color the shingles from the peak down. Keep your brush moving so the paint won't cake up in any part of the roof. Do a small area at a time.
4. Now, work fast so the Earth won't dry. With the same brush, (don't clean it) add some Grimy Black; work it into the still-wet Earth. Again, brush only from the peak down to represent soot washed by the rain.



A word of warning. Most modelers goof-up because they use too much black. Shake your bottle frequently and use only the paint on the inside of the cap. Avoid sharp lines which will give your roof a zebra look. If you think you've added too much black, go over the roof with Earth once again. Earth is the main color and black is blended in subtly.

5. Finally, to represent pigeon droppings, use thinned white water-based color. This is recommended because it can be wiped off if over done. To apply the white, I recommend using a cheap, stiff-bristled brush.

Take just a little white onto the brush and rub it on a piece of scrap paper, working the bristles apart. This removes most of the color and is called dry brushing.

6. Whatever color is left on your brush can be used to streak the roof. Remember the less used, the more realistic it will look. If you use

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too much, wrap a piece of cloth (moistened slightly) around your finger and lightly wipe off some of the color. Wipe downward only.

7. If you should end up with any shiny spots, give your roof a light spray of Testor's Dullcote.

I suggest you practice this technique on a brown paper bag before trying it on a model. When you think you've got it, work on an old shingled building that you don't particularly care about—GEORGE SELLOS, FINE SCALE MINATURES.

Making barrels

The metal tops which hold the erasers onto lead pencils can be used as large barrels on an HO layout. Since most of these pencil-tops have six ridges per side, they may be used to represent various types of industrial containers. After carefully pulling them off the pencil, the eraser may be removed for an open-top barrel or it may be cut, sanded smooth and painted for a closed barrel—PATRICK MILLIGAN.

Protecting knife blades

When I receive merchandise from different places there are usually spaces in the shipping crate where foam chips fill in empty areas. I save a few of these chips and stick the blades of my hobby knives in them. This protects them while they are in a box with other knives—JIM HAWK.

Oiling track—follow-up

The fine articles in the June issue on using clipper oil on your track to overcome faulty current pick-up did not quite cover the full picture. The following information in no way is intended to criticize Don Fiehm and Eric Brooman but merely to give you the other equally important part of the process.

First of all, kerosene works every bit as well as Wahl clipper oil and perhaps a little better. In many areas, kerosene is a lot easier to obtain. But it is extremely important that you use pure kerosene—do not buy the kind that is colored or scented—use pure only!

A factor not mentioned in the previous articles is that the oil itself does not aid current pick-up at all. Let me give you a brief rundown on what the problem really is and what the oil does.

Because of microscopic roughness of the track and locomotive drivers, many unseen spikes or arcs of current are constantly jumping between the track and drivers, or between the drivers and track when the current is reversed. This causes unseen pitting of the two

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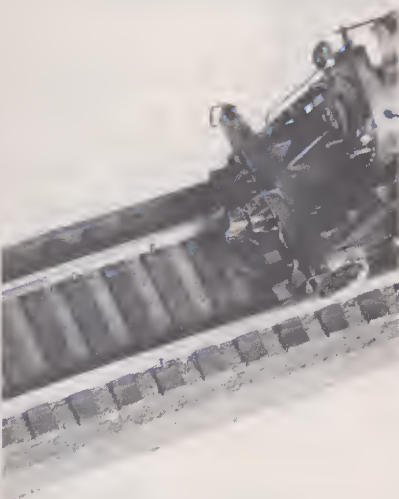
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surfaces and these pits gradually cover a greater area as the process continues. Due to the action of the current, the pits become oxidized and as their areas become large enough they form insulated spots on the rails. This action is bad enough on nickel silver rail, but much more rapid on brass. Now you have balky locomotive performance and even refusal to move after coming to a stop, that bane of smooth switching operations.

Don and Eric made it sound as though rubbing the rails down with clipper oil would end this problem—I expect they did not mean to let it go that simply. The track and wheels must first be sanded to a whistle-clean condition to remove the oxidation. And the following is a complete description of the procedure. Get some fine grade emery cloth and cut a square piece about 1½" on a side for HO track—adjust that figure for other scales. Fold the piece in half with the grit side out. With the folded edge forward and the piece held flat between your thumb and first two fingers, sand both rails at the same time with one finger over each rail. If you have dyed or painted your wing and guard rails and switch frog wings (as you should), turn the emery cloth sideways and sand the running rail only. Do the entire layout. If you have tunnels and/or long truss bridges, glue a square of the emery cloth onto a small 2 or 3 ounce block (brass is good) and rig a system for towing this without side play behind a locomotive. Clean the hidden tracks with about ten passes of this sophisticated contraption. Now vacuum or brush dust the whole layout. How you do this in a tunnel would be interesting—maybe you can send a miniature cat through. I haven't faced that one yet since my tunnel is still open.

The next step is to take that same piece of emery cloth and draw the grit side of it back and forth over the *back* (smooth) edge of a hacksaw blade until the grit is mostly gone and the cloth is quite limp. Fold it in half once more but this time with the cloth side out. With an eye-dropper, apply six full drops of kerosene or clipper oil on one folded side only and put the drops side by side in a small circle—don't put the drops all in one spot, in other words. With the oiled side down, rub about 100 feet of track, one rail at a time, using about three passes per section. For each succeeding 100 feet, add three more drops of oil to the cloth. Your track is ready!

And so is the explanation you have been waiting for. Oil and kerosene cannot conduct electricity—all the oil does is to greatly retard the formation of more oxidized pits. The oiling will have to be repeated about every 6 to 8 weeks and the sanding of the rails should be done at least twice per year for the nickel silver rail and more often for brass.

And now for the good news. You are not done yet. The next step is to clean the current pick-up wheels or shoes on all your powered equipment. I use a new wire wheel in a Dremel tool, rotating the drivers by hooking up a pair of jumper leads from a small power pack kept around the house for such purposes. The job can well be done by hand with emery cloth but this is a bit more tedious. Do not oil the drivers—they will pick up the oil from your track quickly enough. You will have to try this cleaning and oiling system to really believe what it will do, as Don and Eric have said.

Abbott Lahti, owner of Power Systems, Inc. in Cambridge, MA gets a vote of thanks for suggesting the use of kerosene on the track and for the explanation of what purpose it serves. My layout is completely powered

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with dual cab PSI equipment and great as it is, it could not stop balky performance caused by pitted and oxidized track. So have at it—you are going to be pleasantly surprised at the results.

Quick-reference system

I have found that trying to find a particular article from a past issue of a magazine is a very time-consuming chore. What I do as soon as I get my issues of RMC is make a copy of the table of contents and put it in a three-ring binder. Whenever I want to find a particular article, I look through this binder and see which issue it is in—JOHN TOBIN.

Free screenwire

Here's an idea for those who still like to use screenwire as a base for their plaster scenery. Go have a talk with your neighborhood hardware dealer, the one who fixes storm sash and window screens. Ask him if he would save the old screen wire for you. These pieces are usually about 30 inches square and some only have a small hole in them.

Our club has used this method of obtaining screenwire for several years, and we have all the wire we can handle. Make sure somebody stops by the store on regular basis as space is usually at a premium in a small hardware store—RON BAILE.

Handling hard shell scenery

As a devoted model railroader, I offer the following tip of my own. One of the most frustrating things in working with hard shell scenery and open grid benchwork is to get a flat and level surface to plant buildings on. One obvious solution is to use plywood as a sub-surface, but if you build a fairly large layout like my Lexington and Northern, this can get rather expensive, not to mention heavy. An easy solution that I have found is to take a large piece of plywood and cover it with plastic kitchen wrap. Then prepare Hydrocal® and put down two or three layers on top of the plastic wrap. When it dries, you can remove the hard shell with ease (the plastic wrap keeps the hard shell from adhering to the plywood), cut it to fit as needed and anchor the flat hard shell in place with risers and additional hard shell. With a little care, an entire town can be modeled at the work bench and lifted en masse into place on the layout. It can also be removed if necessary for maintenance or repair later on. I have found that it is much easier than trying to cut odd shaped pieces of plywood to fit the holes in my benchwork where structures and towns are being located—ALEXANDER KAPLAN.

A new tool to use with cast urethane

Anyone who has assembled any of the models made from cast urethane has probably found a new problem: how to remove any bumps in the surface adjacent to the fine details. If you use a regular hobby knife, you will run the risk of gouging the material. Sandpaper is slow enough, but uneven. What is needed is a small-bladed and fairly sharp knife or chisel.

My vocation is electronics, and I have several soldering tools. One of these, a desoldering tool, fits the bill with some modification. This tool allows me to trim around the smallest detail with no fear of gouging or removing the detail. The tool comes with a wooden handle and small wire brush at the other end—ROBERT KENT.

RAILROAD MODEL CRAFTSMAN

Chalk dust as a finish

A proven formula for representing wood on materials such as metal and plastic is to coat the components with Floquil Foundation, allow it to thoroughly cure (about a week), then brush on one's choice of Flo-Stain.

Even when the Foundation has cured, and particularly when it has not, glossiness can occur while building up the stain to its desired density. This sheen can be remedied while the surface is still damp by brush applying pastel chalk dust, simply shaved from the stick with a razor blade or hobby knife.

A wash can be matted with the same approximate color of chalk or, as with a natural wood-stained surface, a wood hue, grey or white can be used. This same technique can also be employed to hide glue "leaks" between parts joined with cyanoacrylate or contact cement provided, again, that the adhesive has not completely set up.

A rainbow assortment of pastel chalk sticks which will last, perhaps, a lifetime of general model weathering costs around five dollars at most art supply stores and craft shops. Two common brands are Nupastel and Weber Costello's Alphacolor—WOODY LANGLEY.

Inexpensive fast clocks

I was prompted by Michael Morgan's recent (April 1981) suggestion in this column to offer another solution for using a used or cheap wind-up alarm clock as a fast clock. The method is quick, easy and does not require the dial to be altered.

First, let the mainspring run down, then remove the escapement wheel from the mechanism (Sketch 1). Be careful not to damage the bearing pins at each end of the shaft. Remove most of the teeth on the wheel, leaving even spacing between. For example, on a 15-tooth wheel I removed four out of five teeth, leaving three teeth evenly spaced (Sketch 2). I broke the teeth off using a pair of needlenose pliers, then filed the surfaces smooth. If you have a motor-tool there is less chance of damaging the wheel if you use it. Reinstall the wheel and your fast clock is ready to go.

The resulting speed ratio is difficult to predict. I got about a 6:1 increase (one hour of fast time elapsed in ten minutes of real time) going from 15 teeth to 3. I don't know how well it works if you leave only one tooth. The speed is constant for at least twelve (fast) hours, but I suspect that it may slow down as the mainspring runs down. So, wind it up once in a while during a long operating session.

Finally, I left the second hand on, but you might want to remove it as its rapid march can be distracting—MIKE MACKAY.

Salvaged shim washers

When one mounts Kadec couplers on freight cars, it is sometimes necessary to shim the car at the trucks to bring it up to the correct height. I ran out of washers one evening and was about to call it quits when I happened to take a closer look at the horn-hook couplers supplied with the kit. A quick set of eye-ball measurements showed the coupler shank to be the thickness that I needed. To salvage a washer out of it, I cut off the molded-on "spring" and then nipped off the end with the hole. Trimming to a perfect circle is not really necessary, and the washer is very slippery, allowing the trucks to rotate freely—JAY ZVOLANEK.

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Have you ever heard of the *schmalspurbahnen*?

I used to be an average apartment-dwelling model railroader, content with a switching layout, painting and lettering equipment while planning . . . dreaming . . . an impossibly fantastic model railroad, CNR and CPR, steam/diesel transition era, the whole bit, a creation awaiting only the purchase of a house with a suitable basement — one the size of a football field.

I bought a house. Whilst attending a NMRA divisional activity in Halifax, Nova Scotia, a few years ago, what did I see at friend and supplier Jim Jones' table but some funny little trains running around a loop of what looked like N scale track. I didn't know it at the time, but then and there I was hooked. The track was N scale track, only the trains were HO scale, European narrow gauge trains, Lilliput HOe equipment to be precise.

HOe is European for the small gauges in the region of thirty inches, and from the chaos of "HOe," "HOn2½," "HOn30" and so on, I choose "HOe," if for no other reason than typographic efficiency.

Without prejudice to gauge, I always have had a sympathy for non-North American railroading, perhaps from a two volume set of books about world-wide, pre-World War II, railroading, available to me in my childhood; these two books are still my most cherished references. It will come as no surprise, therefore, that I soon had one of the largest Canadian inventories of Lilliput HOe equipment. Lilliput HOe soon led to BEMO HOe.

Consultation with friend Jean-Pierre Cahorn, a naturalized Canadian of Swiss birth, revealed that the BEMO HOe equipment was actually metre-gauge equipment on narrower wheel sets, a conclusion confirmed by the fact that BEMO offers the very same items in their HOe line as metre-gauge items in their metre-gauge line, which they designate "HOM." This is not as confusing as it seems. Metre-gauge locomotive and rolling stock designs were often the same as those for the smaller gauges.

Jean-Pierre was always an enthusiast of the narrow gauges, especially of the small ones, those in the region of 76cm. His passion for strange forms of locomotive articulation

brought him into contact with many systems beyond Switzerland. I fondly remember the evening we uncovered what can only be described as a "Kitson-Meyer-Garratt"; that one called for a round of doubles. Judy Cahorn is the resident psychologist, but it was J.P. who developed, over the years, my narrow gauge habit. Many were the evenings spent with J.P., pouring over books from his magnificent library; I am now at the point where I can often decipher, if not read, captions in German.

A whole new world was opened to me . . . an amazing world. Incredible stuff exists out there, you know; or once did. How about 2-10-2 side tanks with enclosed cabs, smoke deflectors and piston valves running over heavy rail on lines with over a foot of crushed rock ballast lined with white-washed stones (Bulgaria, 76cm) . . . ancient 0-6-0 side tanks rebuilt with all-welded construction, not a rivet in sight (East Germany, 75cm) . . . delightful 0-4-4-0 Mallet side tanks (East and West Germany, 75 cm) . . . 0-4-0 side tanks with open cars running through the sand dunes down to the sea (Holland, 70cm) . . . the station, joint with a standard gauge line, where, under the train shed, the narrow gauge has the principal platform (France, metre-gauge) . . . how about the Welsh stuff, cars barely longer than a North American standard gauge freight car truck?

Africa! How about 2-6-2+2-6-2 Garratts double-headed with 4-8-2+2-8-4 Garratts — up the main street of town (Sierra Leone, 30") . . . 2-6-2 side tanks plus four-wheel condensing vehicles with eight-wheel water tanks, or 1,850 h.p. English-Electric cab units alongside 400 h.p. Henschel 0-6-0 side rod diesels (Sudan, 42") . . . Italian railbuses and French diesels (what else? Ethiopia, 95cm) . . . 1,425 h.p. Henschel double-end baby-faced roofed over veranda style diesel electrics (Ghana, 42") . . . 4-8-2+2-8-4 and 4-6-2+2-6-4 Garratts, 45 pound rail and a 2,624 foot bridge (Nigeria, 30")?

I could mention narrow gauge rack locomotives, but I will refrain.

It's fun; it's fantastic. In many places the narrow gauges are alive, well and modern, vital parts of the local economies. On the Queensland Railways in Australia, 100-car unit coal trains powered by four diesel-electrics



HOe: an invitation

organizing/GORDON JOMINI

in multiple share the ribbon rail with air conditioned streamlined passenger trains; it reminds you of pre-Amtrak C&O. QR has the decency to paint their locomotives a pleasing blue and white scheme, trimmed with yellow. They run commutes with stainless steel cars; high level platforms, of course. The QR is a 42" gauge system.

The metre-gauge Rhaetian Railways in Switzerland is a modern, completely-electrified private system operating in regions that make Colorado look like southern Manitoba: 243 miles, 118 tunnels, including 12 spirals, totaling over 24 miles, 498 bridges totaling nearly 8 miles, and the steepest adhesion-operated section in the world, over 7%. The bridges include the Wiesen Viaduct, 289 feet high and 689 feet long; the Solis Bridge, 292 feet high and 538 feet long; the Landwasser Viaduct, 213 feet high and 427 feet long and built on a curve of 328 feet radius; and a spiral viaduct at Brusio almost 4 miles long. RhB (from the German, *Rhatische Bahn*) equipment is a rich green; some is in a gorgeous bright red with silver roofs. The windows on RhB coaches are exceptionally large so you can enjoy the scenery, and they can be opened so you can enjoy the mountain air.

All very exciting and very exotic. I began to acquire bits and pieces for HOe more or less randomly. The hunt for useful items was on! HOe uses 9mm gauge, so N scale track becomes usable: for HOe the ties are too small, but they can be buried under ballast, a prototypically common situation. Kadee couplers are nice, and N scale Kadee's lend the appearance of the combination central buffer/coupler used by most European narrow gauge systems. The Grandt Line GE boxcab diesel fits the BEMO HOe loading gauge and becomes usable with narrowed frames and an adjusted mechanism.

Jim Jones introduced me to things I simply couldn't live without. BEMO has one style of transporter truck; a "transporter truck" is a low-wheeled narrow gauge railway vehicle used to carry standard gauge stock over narrow gauge lines where the loading gauge per-

A comparison of European narrow gauge and North American standard gauge equipment, all in HO scale: The front three rows are Lilliput HOe models, the fourth row is BEMO and the rear is a mixture of TMI, Athearn and Bachmann equipment.



mits; yes, it looks silly. PECO has Crazy Track, which is HOe track, 9mm gauge, with approximately correct ties. Various British manufacturers have white metal body kits for various small locomotives, each kit designed to fit an existing N scale chassis. Among them is the Baldwin World War I trench engine 4-6-0 side tank; the body fits the Minitrix 0-6-0 chassis. Other British manufacturers have metal or plastic kits for Welsh narrow gauge and freeland cars. (The British merchandise is 4mm scale, but the 14% difference does not really show because of the greatly varying proportions commonly found within the small gauges.)

The good stuff started to show up. I acquired one of the Sango/Joe Works Baldwin 30" gauge 2-6-0 brass kits. One of the prototypes apparently ended up in Norway, so its North American lines are not out of place. Jim Jones found some quality motors small enough to fit inside the tanks of those Sierra Leone 2-6-2+2-6-2 Garratts. I bought a few junker Jouef mechanisms for stock.

I got tired of my armchair, scrounged some lumber, and started a 2x4 foot HOe test railroad, both to have something to run trains on and to establish standards for the future HOe/HOM empire. There is virtually no readily available reliable information on the subject.

There are problems. Absolute chaos in wheel profiles, gauges, track and turnouts, and even rail profiles, reigns. There are electrical pickup problems because of deficiencies in both track and locomotives. There are tracking problems partly caused by deficiencies in suspensions and couplers. Every problem that could exist, does. And yet there is an increasing number of exceedingly fine models being manufactured for the HOe/HOM segment of the hobby, a small minority, to be sure, but a growing one which would greatly benefit from the introduction of universal standards.

In the words of Don Peterson, of Wilmette, Illinois, "Quite simply, I'd like to have some trains running. I'd like to be able to use what I think is the right size trackage, with turnouts, etc., be able to use a variety of rolling stock and locomotives, and expect that everything will run with a minimum of derailments and problems."

Further, there are more mundane difficulties, like finding out just what is available and, once that has been done, finding out just where it is available. Patience and perseverance are always necessary in model railroading, but are even more so in the small gauges. Don and I have decided that the time is ripe to do something about the chaos in this field. We are launching an international newsletter for development and standardization, considering HOM (metre-gauge), HOe (the gauges in the region of 30"), and a new minority area called "HOz." Our deliberations will be on a world-wide basis, reflecting the international nature of the existing supply, the transnational character of our prototypes and our small numbers. We wish to contact every manufacturer, exporter, importer, wholesaler, retailer and individual interested in HOM, HOe or HOz model railroading who wishes to help establish standards in and otherwise improve this aspect of the hobby.

Our format will be 8 1/2" x 11", with photo-re-

duced typewriter type and however many pages, plans and illustrations as are required, printed by the offset method. Our frequency will be irregular, when and as required, with an initial objective of four issues per year. Our working language will be English. Abstracts in other languages will be accepted for publication if freely made available. We will be publishing product reviews; identifications of areas needing research; the results of research, testing and development work by both manufacturers and individuals; proposed standards; identifications of necessary or desirable new products and specialized techniques necessary to model railroading in these small gauges. We will be serving as a medium for the discussion, testing, approval and adoption of standards, functioning as an international cooperative.

We will not be considering 36" gauge roads, not because of prejudice, but because the problems of standards, product availability and compatibility in HO_{N3} have been solved and this segment of the hobby is well served by the existing press.

Our publication will be called *HOeSG*, which stands for *HOe Study Groups*. We have mailed our prospectus issue to our initial world mailing list. Our first issue is ready and will be mailed following distribution of this issue of RMC. The first issue will be free to anyone who wants it. I am the editor, and I live in Fredericton, N.B. (Canada). If you are interested in our newsletter our address is:

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The German for steam locomotive is *dampflok*. I would very much like to have my *dampf schmal lokos* motive. Wouldn't you?

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Gordon D. Jomini models European narrow-gauge and North American railroading in both N and HO scales. The need for uniform standards in HOe has led him and others to develop a newsletter.

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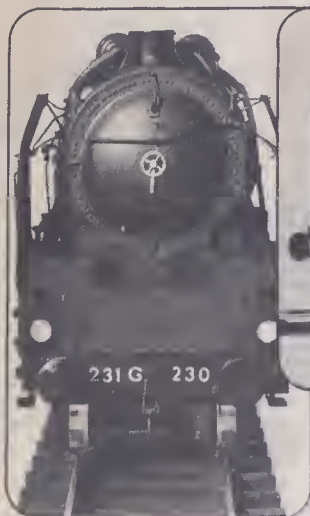
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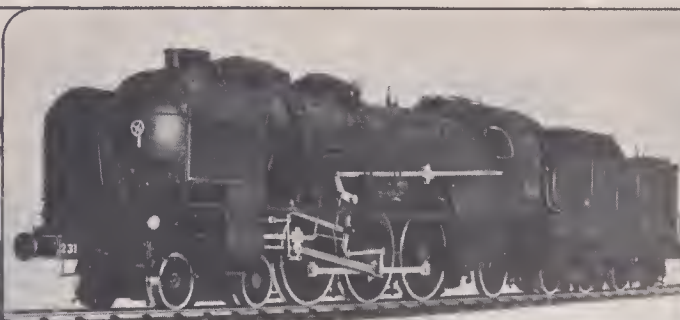
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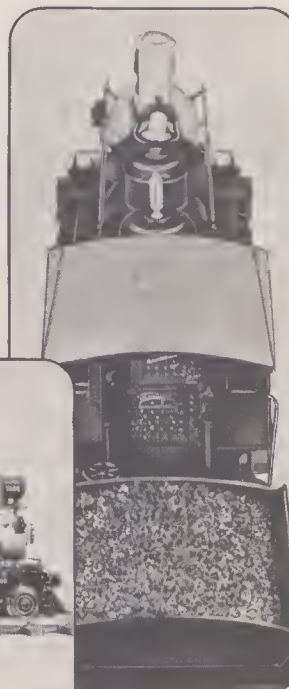
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0 Scale

Pilot model shown

About Condition

Since swapping is such a universal thing among collectors who are often separated by hundreds, if not thousands of miles, a system of determining equipment value had to be invented. Otherwise what was to prevent some overly enthusiastic seller from declaring that the rusted pile of junk in his basement was really in mint condition. After all, his father had bought it in 1932 and it had an emotional value which made it priceless.

If any given set of trains is valuable to you simply because of a long standing emotional tie, it would be better to keep it on a shelf above the layout. The buyer doesn't care two pins about emotional values unless, perhaps it could be documented as once having belonged to Prince Charles.

Perhaps as fine a set of descriptive standards as any were developed in 1964 and revised in 1966 by the Train Collectors Association. Today they are part of the official policy of that group and are used by members and non-members alike to describe the condition of trains or equipment when offering them for sale or trade.

Mint: Brand new, absolutely unmarred; all original and unused.

Like New: Free of any blemishes, nicks or scratches; original conditions throughout; very little sign of use.

Excellent: Minute nicks or scratches, no dents or rust.

Very Good: Scratches, small dents, dirty.

Fair: Well scratched, chipped, dented, rusted, or warped condition.

Poor: Beat up, junk condition, some usable parts.

All descriptive standards are mainly in regard to the condition of the finish. This should be kept constantly in mind.

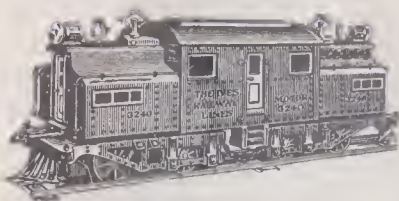
In categories except *mint* or *like new*, parts can and may be missing. Any such missing parts must be noted when describing the piece. Also, any replacement parts must be noted, or exceptions to the stated category.

All restored or refinished items are to be so stated (Note that the standards apply to original items), and no grade above *excellent* can apply to a refinished piece.

All restored and refinished pieces offered for sale or trade at a TCA meet must carry an official TCA tag identifying it as a refinished piece.

The above official descriptive standards were developed in TCA's formative years and

Collector consist...



have withstood the test of time despite the many changes which have occurred in the collecting hobby since then.

One interesting aspect of collecting is that the scarce trains of 1955 have become even scarcer today. There just aren't that many mint condition Lionel State sets to be found. A number of State sets in poor condition have been refinished or restored with new paint, trucks, couplers, wheels, grab irons, and other missing parts added. Such restored sets have at times been in as great a demand as the original mint set, since for many collectors it is the only way they will ever be able to obtain the coveted train.

When a restoration is done, it should accurately reflect the original piece. For example, the Lionel 390E is normally found in black, but there were some made in blue. In original paint these have far greater value than the more common black 390E. A restored black 390E repainted in the scarcer blue would not bring the price of the blue engine. For this reason, it might be desirable not to repaint an original scarce color although missing parts might be replaced.

Also frowned upon is the *creation* of scarce locomotives which are very similar to rare locomotives, by the simple expedient of adding phony number or name plates. A rare Ives 1770E 2-4-2 steam locomotive differs from its Lionel 390E brother only by substitution of a few number and name plates. A phony 1770E would be hard to tell from the 390E if the plates are well made. Personally, I would not value it any higher than the Lionel original, and possibly less since I would have to replace the phoned parts with either Lionel originals or quality reproductions. I would not want the phony engine in my collection. Reproductions, many of which are excellent, are an entirely different matter and we'll cover them at some future date.

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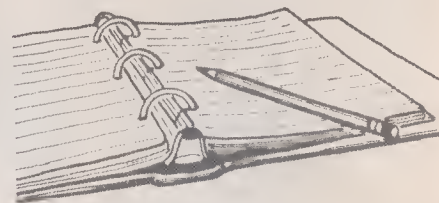
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Editors Notebook

commentary/WILLIAM C. SCHAUMBURG



Writing: an extension of modeling

In the August issue, we looked at the front portion of the magazine, a tour of sorts that noted any special "rules" for the columns there. Other than reiterating the need for following the standard format for TIMETABLE and the statement that we cannot handle either TIMETABLE insertions or TROUBLE SHOOTING questions by phone, we can let the comments in that issue stand. Let's go on to the "center" of the magazine.

PERSPECTIVE is normally written by a staff member and focuses on specific topics related to the photo or photos on the adjacent page. There is a tradition that this section is used to look hard at the prototype. Why? Simply because that is what we model, even if we are freelancing. It is easy to assume that track and ballast look a certain way from the confines of the layout room—what does it *really* look like? To find out, we must go down to the tracks. We might be modeling the present-day scene and build up mental images of what typical consists are on a through freight, or what railroad facilities look like now. Do they match our notions? Again, we should go down to the tracks. If the depot is still standing, we may find ourselves with our feet in cinders and gravel where the platform used to be. Going down to the tracks is useful, but so is inspecting photographs. This is probably even more important for those who model any period previous to this one, since the "evidence" is often long gone. While the main emphasis of this feature is the prototype, it has been used for model subjects in the past (July, 1979, and March 1980, for example). We will reserve the right to occasionally expropriate the feature for model subjects in the future, as we have done in the past. Will we accept contributions to PERSPECTIVE? Yes, and on some occasions you will be seeing authors' names after it who are not staff members. There are some restrictions on the format and length of the column, though, that must remain. Since most of these will come from the office, please contact us prior to submitting material for this section.

"We can't print it if we don't have it." That slogan probably best describes our approach to anyone's queries about whether or not we would like to see an article on a certain subject. For some modelers, writing is an extension of their modeling; it's part of doing the hobby. While many may shrink from sending

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an article on their work in to us, it really is not all that hard to do. (Sure, it does take a little more than just stuffing papers into an envelope, but it isn't really difficult.) What is mostly involved is a desire to share your modeling with others, plus a few technical skills. If you can write a standard English letter, you can probably do an article.

Essentially, a manuscript should be sent typed, double-spaced. Provide a good lead paragraph to give the reader an idea of why he or she should read it or do the project, say what you need to say about it, and then wrap it up. The type of article will partially determine the format. A straight forward approach is better than a high-toned "style." Construction articles tend to be more or less step-by-step, although you need not tell the modeler to pick up the knife or file each time. Layout features usually tell something of the history of the layout, club or modeler, where and when the model is supposedly set and how it operates. The best advice I can give is to look over recent issues of RMC to review the formats used in the type of article that you are writing. Note: review the *format* as well as the content. If we run an article on a particular railroad's depots, do not assume that we are instantly looking for more articles about *their* depots. Chances are we will probably want to cover another road's to spread the subject matter around a little; this is the idea of "balance." However, by studying the authors that have their work appear frequently, you can gain a great deal of understanding to write about a particular subject. Use that information as a pattern.

A few specific things should be said about layout features. We need a neatly-drawn trackplan, preferably to scale. This can be pencil work and should be about twice the width of the three columns on a page (7¹/₁₆""). This allows the drawings to be reduced to increase their sharpness after inking. We can do the drawings here. If you can provide finished artwork, so much the better—it allows us to schedule the article faster, at least in most cases. By "finished," we mean inked in the typical style, but not lettered. We set the type for dimensions, place names, etc. Mark them on your inkwork in light blue pencil. If you are providing pencil drawings, just print them legibly in the location that best describes them.

Construction articles usually need some type of scale drawings and diagrams; while it is again helpful if you can do the inking (We will talk more about this in the future.), we can and will work off of neat pencil sketches. The advantages of sending in finished artwork are twofold: there are no delays in scheduling because artwork must be drawn either here or by an outside draftsman, and, the payment to you is greater to reflect your extra work in preparing the article. All original artwork is done oversize and then reduced for use. Typical scales are 3/8" and 1/4" to the foot (depending upon the size of the item) for cars and structures; diagrams are usually done about twice this size. This can be estimated by looking at the width of the columns and the shape of

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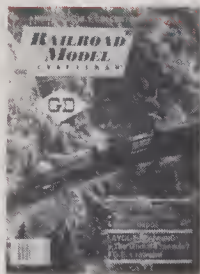
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your sketch. Both finished layout drawings and drawings for construction articles are acceptable if done on a quality drafting vellum; most draftsmen now use pens such as Mars or Rapidograph.

While a whole column can be written about photos, note that most articles must rely on black-and-white prints to carry the story, with color as an "extra." True, color often is the most attractive addition to an article, but there are only a limited number of color pages available in any issue. Keep the lighting even, watch the depth-of-field, and don't let the black-and-white prints get muddy and flat. They should be *slightly* contrasty, but with a full range of gray tones. Print full-frame and let us crop here. A little gray tone in the sky is better than stark white; the same holds true on blank backgrounds—very light gray, rather than pure white on the print. We prefer 5"×7" and 8"×10" glossies with borders. We have been using Plus-X for most in-house work; it is not too grainy and has a good contrast range. Admittedly it is hard to get good black-and-white prints from the drugstore or ordinary photo-finishing store; you may find it necessary to work with a friend or use a special-services lab.

One last point on photos for now: don't get stuck in a helicopter. Low-level photos of equipment in realistic settings are preferable to high-angle shots, at least in most cases, no matter what the setting. This is especially true for layout feature articles and BOOMER TRAIL. A few realistic photos in a construction story are helpful, too, since they make a good lead photo to show that the project was worth doing. They are inspirational, too.

What can we use? Actually, articles on nearly anything related to model railroading

are candidates. One way of testing the "market" is to send us a few photos of your proposed article, along with a very brief description of it. This will allow us to evaluate it, check on the photo quality (One could send a photo of another project to help us judge the technique and printing.), and make a decision before time is spent preparing an article. We do need construction projects of all sorts, photo and plan features of cars, structures and details, and layout feature stories. No, the files are not totally filled in BOOMER TRAIL, Kitbash Award, or PROTOFILE, either. If you are working on a layout, car, detail, or structure, we would be glad to review a possible article. BOOMER TRAIL uses a variety of photos, including roster shots. This is one of the best ways to introduce yourself to us and to the readers. There have been several authors over the years who started out with just a shot of the layout or of a special car or structure. Give it a try. The RMC/Dremel Kitbash Award is another good place to begin. The basic rules are that the model must be composed of at least 50% commercial parts, a pair of 5"×7" or 8"×10" black and white glossies (minimum) must be submitted, and a text or good set of notes must come in to us.

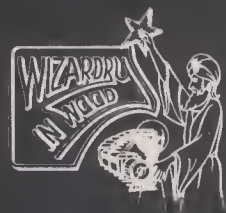
A tip: Very short articles can be scheduled far more quickly than the multi-page or multi-part features. The reason is simple: When planning an issue, we first take the major features (those which will require six to eight pages to print) and find positions where they will fit. Since the pages which can include full-color illustrations are limited and occur in a specific sequence for technical and economic reasons, these major feature articles must be placed very carefully. Once they are blocked in, there are usually

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one to four page "holes" that must be filled. This is where features like BOOMER TRAIL, the RMC/Dremel Kitbashing Award and short articles are dropped in to balance the overall content of that issue. If we have only a one-page slot for the Kitbashing Award, then the one which gets printed depends as much on the fact that it can be fitted into that single-page opening as what type of model we want to choose for overall balance. If we plan to feature someone's kitbashed 2-8-8-4 but can't fit the fine photos we received of that model into the single page, then we have to select another candidate that has fewer illustrations and thus requires less space. Conversely, if we have a two-page slot for the Kitbashing Award coverage, a model which was illustrated with only the required minimum of two 8x10 glossy prints may be kicked out in favor of one which was more amply photographed.

For that reason, we must maintain a large backlog of Kitbashing Award candidates. Otherwise, we simply would not have the flexibility to swap similar material around until we found something that suited the magazine's overall balance needs and fit the available space.

To round out this discussion, I should note that we pay for articles when published. Also, we do feel that the best place for an article is in print, not in the file. In spite of this, there will be delays in scheduling that may seem like they last forever. I know this frustration well, since I spent several years as an author before joining the RMC staff. We will work within the size and balance limits of each issue to get your work published without unnecessarily-long delays. We are interested in what you are doing and would like to help you share your modeling with others.

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Collector consist

There's a new column in the table of contents—COLLECTOR CONSIST. It's there to serve this segment of the hobby, just as such regular features as PROTOFILE or TIPS AND TECHNIQUES serve those interested in accurately modeling specific paint schemes or improving their shop and model building techniques. Since so many scale modelers started out with Lionel and American Flyer, it just might touch a memory or two, even if you are not an active collector. Since this field is so broad, a number of topics will be covered in this column. This includes collecting vintage and historical scale models, as well as Lionel, Flyer, Marklin, etc. We want the variety of this field to be reflected in this column and will be presenting many guest authors over the months ahead. Full-column discussions and short items are welcome for COLLECTOR CONSIST. We hope that you enjoy this addition to RMC.

Planning time

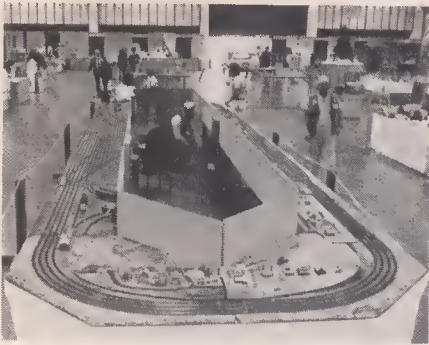
Though proclamations have moved the national hobby month to the period after Christmas, model railroaders usually make their big push to promote the hobby during November. The accompanying photo, from a display of the El Paso Model Railroad Club, is a reminder that several months planning is necessary if your group wishes to exhibit static displays or an operating layout at a shopping center, civic building or local library. In addition to the space arrangements at the display site, volunteers will be needed to gather the materials and organize and label them if necessary. Not all exhibits need to be as elaborate as this modular N scale lay-

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out, but they do have to be well thought out and physically carried to and from the place. Even one or two modelers can put together an attractive library display which shows some aspect of the hobby, so make the needed contacts now, think out your exhibit and let others see your work.



How long do things last?

Max S. Robin, a frequent RMC reviewer, consultant and author, provided us with these photos of a last run of a different sort—the last day of the Ballantine Brewery's operation in Newark, N.J. The truck, a rebuilt Bulldog (modified radiator and hood), is still equipped with solid tires and chain drive—it looks like an old Mack and likely sounded like one. The date: March 18, 1972. There was a coal company on Chicago's South Side that had an original Mack, probably an AC. It was still running during the late sixties. Some things seem to last a long time, a help for modelers looking for vehicles and details for the layout.

Correction

We incorrectly noted the photographer of the fine Sandy River locomotive in the July KITBASH AWARD; the credit goes to Peter Watson, the author of the grass-fom-hair article in the April, 1981, issue.

B.11

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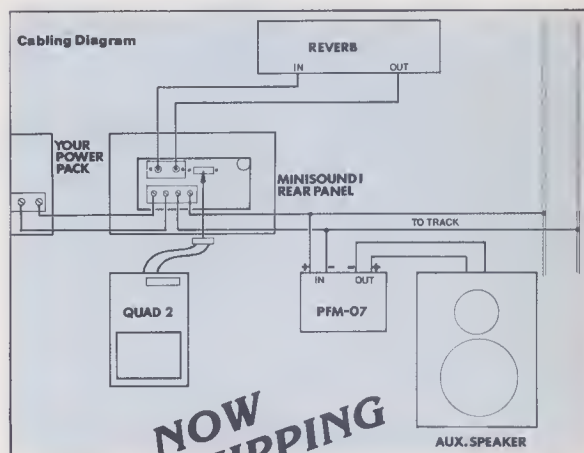
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